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THE NEW HANDMAID TO ARTS, SCIENCES, AGRICULTURE, &c.

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CONTAINING

1. Monthly Obſervations in the Orchard, Kitchen and Flower Garden.

2. Obſervations in Huſbandry.

3. The Art of Breeding and Managing Canary Birds, &c.

4. Complete Farriery, or Rules for the Management of Horſes.

5. The Vermin Killer, containing Methods to prevent and deſtroy Bugs, Fleas, Lice, Piſmires, Flies, and all other Kinds of Vermin: alſo, the moſt rare Secret how to catch Fiſh; and the Method to make Bird-lime.

6. The whole Art of Painting in Oil and Water Colours: alſo, the whole Art of Gilding with Gold and Silver, and mixing water colours, &c.

7. Directions for making of Colours for divers purpoſes, in the Art of painting Prints with Water Colours.

8. The Myſtery of dying Silks, Stuffs, Cloth, Thread, Nankeen, Turkey Red on Cotton and other Things.—To ſtain Wood, Horn, Bone, Leather, &c. of various Colours. To extract Lake, and other curious Colours from Flowers, Herbs, Seeds, &c. together with many curious Receipts to take Spots or Stains, Pitch, Tar, Roſin, Wax, and Ironmoulds out of Silks, Stuffs, Linen or Woollen, and to recover faded Silks; with many other Things worthy of Note.

TO WHICH ARE ADDED,

A CURIOUS COLLECTION OF

MISCELLANEOUS ARTICLES.

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30 OCT 68

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NEW HANDMAID, &c.

BOOK I.

Some OBSERVATIONS on GARDENING,

GARDENS are ſeldom remote or by themſelves, but near dwelling houſes, and the ſituation thereof ought to be in a free and open air to the eaſt and ſouth, but the ſouth eaſt is beſt, and the north defended by tall trees, by the houſe, or indeed by both, which is better than hills, for hills to trees are not ſo good, becauſe they give too great a reflection of heat in ſummer, and likewiſe hinder the cool, ſerene air that often comes from thence. Tall trees break the wind and fierce air, that in ſpring and ſummer damage the moſt delicate plants and flowers, affording moſt pleaſant ſweet air and ſhade in hot weather.

As to your ground, the quality thereof ought to be enquired into; and it is a great happineſs to enjoy good ground, for it will yield more than that which is mended at great coſt and charge. The quality of your ground is to be regarded,

as whether it be ſoft or ſtrong, light, dry, or moiſt; and how to chooſe proper trees to plant it withal; alſo what ſort is proper to mend thoſe that grow on dry, warm ground, and make them bear the beſt ſorts of fruit. Thoſe that grow on moiſt ground produce large fruit, tho' not ſo pleaſant or well taſted as the former; as you may obſerve in wet or dry years. All land proper for wheat, barley, rye, beans, peas, &c. are kindly for orchards; the moſt improper is extreme hot and dry ſands; and on the contrary, grounds that are very wet and cold.

In ground that is moiſt, don't dig your holes too deep, but heighten your ground, and be careful before you plant your trees, that you cut the roots that ſhoot down, more eſpecially the pin roots; or elſe you muſt put buſhes underneath, that that the water ſhoot off, and the roots ſtrike not too deep in the cold earth. The upper ground is always the beſt, for what is deep in the ground has not felt the heat of the ſun, nor received the ſweet moiſture of rain or dew.

That an Orchard may always bear Fruit plentifully.

To do this, you muſt obſerve when there is an eaſterly or north-eaſterly red wind, for that is always accounted a blighting one; if you live near heathy ground, then in ſummer dry four or five hundred turfs; but if not, take three or four arm full of ſtraw, hay, or fern, not too wet nor dry, and obſerve which way the wind blows in your orchard, where laying an arm full of mucky ſtraw in divers places, according to the bigneſs of your orchard, get ſome dry ſticks, light them, and put under your ſtraw; when kindled, it will ſmoke and ſmother, and the wind will carry it over the whole orchard. This continue till the wind turns about weſterly, and it certainly kills caterpillars, flies and vermin that blighting winds bring; other winds do no harm; obſerve but this, and you will have plenty in the worſt of years; and thus you may preſerve your wall fruit from froſts.

Mr. Blith writes, that land not worth 2s. an acre, hath been made worth 5l. in a few years; that is to ſay, boggy lands, if you plant willow, ſallow, and ſuch like, if it is drained deep.

And that a gentleman planted 100 aſhes, and lived to ſee them ſold for 500l. at 50 years growth.

And that, if you cover cherries, plumbs, or other fruit trees with rough canvas, or other cloth in ſummer, and wet the cloth often, it will keep the fruit back a long time, that you may have it when others are gone.

As for ſeeds and roots, and all other matters requiſite to be known, I refer you to peruſe The following Monthly Obſervations.

The miſcarriages and diſappointments that are met with in planting, proceed, firſt, from want of knowledge, which are the beſt and propereſt ſorts of plants for fruit, and often uſing the worſt. Secondly, for want of their being well ordered and managed after they are planted. Thirdly, ſome ſeaſons have of late proved bad, and ſpoiled fruits, tho' the greateſt care and ſkill have been made uſe of.

To remedy theſe inconveniences, endeavour to find out ſuch gardeners as will deal faithfully by you, and ſuch as have judgment to know the vaſt difference of fruit, for there are ſeveral ſorts of fruit, which ſome call by one name, and ſome by another; and miſtakes of this kind often cauſe a quite different to be ſet, not proper for your purpoſe, being neither proper for your ſoil nor expoſure, and ſeldom or never come to maturity; nay, tho' you have the beſt, if the ſoil and expoſure be not proper, they may grow, but will not arrive at that perfection or maturity which thoſe do that are ſown or planted in a proper and agreeable ſoil; therefore let your gardener be acquainted with the aſpect of the wall you deſign to plant againſt, as alſo the height and extent of it and what ſort of earth it ſtands on, whether hot and dry, or cold and moiſt, that he may regulate and furniſh the whole plantation with trees proper and neceſſary.

The well ordering and managing of trees to be chiefly regarded; for if you plant againſt an old wall, where other trees have died the year before, and put them in juſt where the other were; it is great odds but your expectation is fruſtrated. Or if it be a new wall, if the earth it is ſet in be not good and proper, tho' you fill up your borders with good earth, yet when the root is paſt the good earth, it will return back again, and ſo your fruit will be ſmall, and have little taſte or goodneſs. Therefore uſe a proper depth and

width, with good earth, and let your fruit trees be carefully planted and headed in their proper times and ſeaſons, and likewiſe watered in ſummer, with the borders cleared from weeds: let nothing be ſown by them, as beans, peas, &c. nor yet any flowers, for all theſe ſuck away the nouriſhment from them; and be ſure let all your fruit trees be well pruned, and the fruit carefully picked and looked after, or you will never obtain what you expect.

As to the ſeaſons, when you have uſed all your endeavours to plant and graft according to the nature of your ground, the various ſeaſons (either too much rain or too much cold) give a quite different turn to your fruit; ſometimes it will prove ſmall, ſometimes watery, and of little or no value; nay, you would ſcarce believe the ſame trees could produce ſuch different fruit: therefore, if when you have uſed the proper means, your expectation is fruſtrated, what muſt be the fate of thoſe who are careleſs, and perhaps plant pears, apricocks, peaches, &c. not regarding the ſeveral aſpects againſt the wall which is required; as when they ſhould plant againſt a ſouth, they do it againſt a north-eaſt wall, &c. Likewiſe obſerve in trees you are to plant againſt a wall, you do not plant them for dwarfs, for then they will not come to their due perfection.

Great allowances muſt be made for the fickleneſs of the ſeaſon, the diverſity of ſoils and climates which are almoſt numberleſs, and to the nature of the tree and ſtock, and to the way that trees grow to the greateſt perfection; theſe are things that require mature conſideration, and a quick apprehenſion, to balance the opinions of proper judges.

It is a great matter to know the nature of the ſeveral ſoils, their infirmities, and their proper remedies, with the application required to invigorate exhauſted mould, ſweeten the foul and tainted, and reduce the ſour, harſh, ſtubborn, dry and over moiſt and diliated earth to its genuine temper and conſtitution; and what ſituations and aſpects are moſt proper for the ſeveral ſorts of dwarf, ſtandard, and other fruit-trees.

The requiſite qualifications of a good gardener are ſuch as theſe, viz. He ſhould be a middle-aged man, vigorous and active, one of experience and a large capacity, diligent, honeſt,

neſt, and good-natured, which are qualifications neceſſary for every perſon.

As for the expoſure of gardens, if they be of a ſtrong earth that is cold, to be expoſed to the ſouth is beſt; if light and hot, then the eaſt is counted beſt; the northern aſpect in England is beſt for baking fruit; the eaſtern expoſure is ſubject to the north-eaſt wind, which whithers the leaves and new ſhoots, beſides eaſtern wall-fruit have little benefit of the rain, which generally comes from the weſt; and as the eaſtern expoſure is ſubject to north-eaſt winds, ſo the weſtern ſuffers by north-weſt winds in ſpring; and the fruit in autumn is often blown by them; and as all expoſures have their advantages and diſadvantages, it requires ſome conſiderable prudence and ſkill to prevent the latter.

As to the weather, in ſcorching hot weather, (ſays Pliny) to burn cray fiſh, i. e. water crabs, in ſeveral parts of your garden, under your vines, is a good remedy.

To preſerve young Trees from being peeled by Hares, Rabbits, or other Animals.

Take tar, which mixt with any kind of greaſe, and boil it over the fire, ſo as both may incorporate, then with a bruſh daub over the ſtem of the tree as high as they can reach; do this in November, and it will ſecure the trees for the whole year, it being the winter time only when they feed on the bark.

For Froſts in a Garden.

Smoke ox or goat's dung forthwith in your garden, or chaff.

Help againſt Ruſt and Vermin.

Make a great ſmoke with ox dung, and let it fly with the wind over your garden.

Againſt thick Miſts and Fogs.

Hang eagles in the middle (or at the four corners) of your garden; or burn heaps of chaff, weeds, or ſhrubs, and the ſmoke will help.

Againſt Thunder, Lightning, and Blaſts.

Hang iron or horſe-ſhoes on the trees.

N. B. The Gardeners in the northern part may obſerve, that nearly one month according to the ſeaſon, is always later than the ſouth part of this iſland.

JANUARY OBSERVATIONS.

In your orchard this month lay bare the roots of fruit-trees in open weather, nouriſh them with good rotten ſoil; prune thoſe trees that are to ſtand, and tranſplant the younger; prune and nail up wall-fruit; now cut the vines cloſe, moſs the trees that are encumbered, with a copper ſcraping iron; gather cions and grafts, and turn your dunged ground.

In the kitchen garden lay heaps of good mould, mixed with dung, to rot againſt ſpring, for your uſe; and if the weather be open, ſet early peas and beans; ſow the ſeeds of radiſh, ſpinage, charvil, lettice, corn-ſallad, and make up your hot-beds to ſet things in, that are to be forced and come out of their natural ſeaſon.

In the flower garden, now is the time to preſerve the July flowers and auriculas from ſnow and over-much wet, by laying the pots or boxes on one ſide they are planted in, ſupport mat coverings over them on hoops, arch-wiſe, about a foot from them; yet, if the ſun ſhine clear, once a week air them, by opening in the middle of the day; but by no means forget to cover them again as ſoon as the ſun be much declined; and now and then looſen the mould, and ſcatter freſh, mixed, with a little dung on the top.

FEBRUARY OBSERVATIONS.

In this month, take care to cover the roots of your fruit-trees that were laid open the month before; plant, if the weather be open, and towards the latter end of the month, and graft pears, apples, plumbs, cherries, and cleanſe the trees of defects left undone in the laſt month.

In the kitchen-garden continue to ſow and ſet beans and peas, radiſhes, parſnips, aſparagus; remove cabbage-plants and potatoes, Jeruſalem artichoaks, winter early colliflowers; ſow parſley, ſpinage, and other pot herbs that will endure the weather; raiſe hot beds for muſkmelons and cucumbers, &c. ſow the ſeeds in them at full moon, ſteeping them in a little warm milk, you may put three ſeeds in a hole, cover them till they come above ground, then air them as the ſun is favourable, but cover them at other times.

In the flower-garden, ſow in mellow earth, auricula ſeeds in pots, but not too thick; keep your choiceſt flowers in pots or

caſes

warm, with tilted coverings; the weather being open, this month you may plant early anemonies; ſow choice ſeeds in warm meſlow mould, and keep every thing as much as may be, from too much wet and cutting ſharp air.

MARCH's OBSERVATION.

In the orchards proceed to graft choice fruits, as nectarines, apricocks, wall-plumbs, peaches, and the like; raiſe the earth about the roots of choice trees; lay layers of young ſprouts, cutting them underneath, that they may take root; enrich the earth you lay them in, that they may do it very ſoon; ſtake and bind up the weak ſhrubs and plants, that are apt to be much ſhaken and looſened by the wind.

In the kitchen-garden ſet ſlips of ſage, roſemary, lavender, and thyme; ſow leeks, radiſh, endive, ſuccory, parſnips, beets, ſkirrets, ſorrel, parſley, bugloſs, burrage, charvil, lettice, onions, garlick, purſlain, peas, carrots, turnips, cabbage, marjoram, creſſes, fennel, ſtring ſtrawberry beds; place glaſſes over your melons and cucumber plants, till you remove them from the hot beds; tranſplanting medicinal herbs.

In the flower-garden, ſow ſweet william, auriculas, wall-flowers, ſtock gilliflowers, candy tufts, venus looking glaſs, French honey-ſuckles, cow ſlips and primroſe ſeeds, lark-heels, campions, linchins, campanula, Indian ſcabious, pink or gilliflower ſeed, &c. and in your hot beds, French marygolds, amaranth, Naſturtium Indicum, Mirabilia, Peruviana, the ſenſible humble plant, &c. Tranſparent gilliflowers and auriculas, if the weather be favourable, weed after a gentle ſhower; earthh-up unremoved gilliflowers and auriculas.

APRIL's OBSERVATION.

In the orchard cut cions for grafts; take ſuccory from the roots of grown trees, earth up the roots pretty high, ſmoak your orchard in the evening with wet hay or ſtraw, ſcatthring pitch or brimſtone on it, to prevent inſects biting of the tender buds, and morning froſts from nipping them.

In the kitchen-garden ſow hyſſop, marjoram, baſil, thyme, lettice, ſcurvy-graſs, winter ſavory; ſtip ſhrubs after a ſhower; ſow radiſh, marygolds, carnations &c. flo-

tender, thyme, roſemary, ; ſet French beans, and remove tender ſhrubs.

In the flower-garden, now the ſeaſon requires you to ply your taſk to the purpoſe ; continue hot-beds for exoticks, that without them cannot be brought to perfection, and remove not into the air, till the common earth can give them a ſufficient warmth ; take out India tuberoſes, and divide their off-ſets from them, but beware in doing it, you break not the phangs ; put them in natural rich earth in pots, ſo plung your pots in a hot bed, moderate warm, but water them not till they ſpring up ; in dry weather when they are well ſprung up, water them freely, and blowing in Auguſt, they will produce a curious flower ; ſhade your beſt tulips from too much heat of the ſun, as alſo your ſeedling ariculas, or the latter will go near to die ; if any of them be ſtripped, remove them from the reſt, leſt they infect them, and make them change their natural colours, and this month continue weeding.

MAY's OBSERVATION.

In your orchard now begin to inoculate, as you find your buds prompt and ready, which take off the middle ſprout, ſmoak your orcharp ſtill as before, for now flies and caterpillars are much abroad.

In the kitchen-garden, thin your ſallading and other herbs, that what remains may grow more kindly, and nouriſh better ; leave the ſtrawberry beds, that the flowers and knitberries may have the better benefit of the ſun ; ſtrew lime and pot aſhes to deſtroy inſects in the partitions, alleys, or ſides of the beds or furrows.

In the flower-garden, tranſplant Flos Africanos, Amaranthus, Naſturtium, Indicum, Mirabilia Peruviana, and ſuch like choice flowers; gather the ſeeds of anemonies as the dew riſes, leſt it be loſt by the winds blowing it away; ſow hot aromatick herbs, plant ſtock gilliflowers in beds, and ſuffer not weeds to ſeed. Let your mucal ſtraw ſmoak thro' your orchard, when the wind is eaſterly, or N. E. hinder blights, and kills vermin.

JUNE's OBSERVATION.

In the orchard, inoculate apricocks, nectarines, peaches,

cherries, apples, plumbs, pears, and gathering ſuch fruits as the ſeaſon produces, for drying, candying or preſerving, and for the preſent uſe of your table.

In the kitchen-garden gather ſuch herbs as you would keep dry for uſe all the year, in the full of the moon, when the ſun has dried the wet from them; ſow lettice, charvil, radiſh, diſtil aromatic plants, water well after ſun-ſet.

In the flower-garden, tranſplant autumnal cyclamen; gather the ripe ſeeds of choice flowers; inoculate jeſſamine, roſes, and roſe-ſhrubs; take up anemonies, ranunculas and tulip roots, ſo keepiug them in dry boxes or ſand, that they do not mould nor rot, till you may replant them; lay July flowers, which will in ſix weeks ſtrike root, ſo that you may tranſplant them into light loamy earth, mixed with good rotten ſoil, and in winter, to ſave room, preſerve them from too much wet; and what good gilliflowers are now blown, preſerve them from ſeed, ſuffering them to have but a few layers, ſo the pods will be filled with the fairer ſeed; take not ſeed from thoſe that break their pod, and e'er you gather it, obſerve the ſun has well ripened it.

JULY's OBSERVATIONS.

In the orchard, water your plants and layers of trees, prune peaches and apricots, leaving the moſt proper ſhoots for bearing, ſo that they may commodiouſly ſpread on the wall; ſtop the luxuriant branches of vines, at the ſecond joint above the fruit.

In the kitchen-garden, ſet ſweet herbs you would have run to ſeed; ſow lettice, radiſh, charvil, and other ſallads, that may recruit the ſtock that is waſted.

In the flower-garden, ſlip ſtocks and other woody plants and flowers; lay myrtles, jeſſamines, and other greens, and make trial of orange trees, for if they take they will certainly be more during, and leſs ſubject to be hurt by cold; lay gilliflowers that were not ready for it before, and cut off withered ſtalks or flowers: clip the box if out of order; ſow anemony ſeeds in fine ſifted rich earth, in beds or boxes; take up early autumnal cyclamens, and as ſoon as may be, replant them in fit ſoil; gather early cyclamen ſeeds, and preſently ſow it in pots; the end of this month ſift your off-ſet beds

of tulips; as alſo for anemonies, ranunculas, &c. ſo that they be well prepared for planting with ſuch things as you have ready in pots, or to ſet in natural ground, till the next ſeaſon; as Mirabilia Peruviana, Naſturtium Indicum, and obſerve, that every thing in your garden be well cleanſed and ordered.

AUGUST's Obſervations.

In the orchard, take away branches that are incumbring or ſuperfluous; prune ſuckers, and if you inoculate in this month, let it be early.

In the kitchen-garden, ſow colliflowers and cabbages for winter; plant alſo marigolds, corn-ſallad, lettice, parſnips, carrots, onions, ſpinage, angelica, curled endive, ſcurvy-graſs, columbines, lark-heels, iron-coloured fox-gloves, holihocks, and the like; tranſplant lettice for winter ſtore; take up full grown onions, garlick, &c. gather pot-herbs for keeping all the winter, and to preſerve others growing; clip them about a handful high before the full moon; ſow charvil and purſlain, and gather the ripe ſeeds, berries, or ſhrubs.

In the flower-gardens, tranſplant bulbs or lillies, and other bulbous roots that are to remain in the ground; and now you may ſecurely remove, lay perrennial greens, and new auricula pots; tranſplant and divide their roots into a light, rich earth: do the like by oxlips and choice primroſes; alſo campions or lichins, carcidonices; tranſplant ſeedling anemonies; ſpider-wort, colchicums and frittilaries, and begin to make up your garden for the winter.

SEPTEMBER's Obſervations.

In the orchard in dry weather, begin to gather ripe winter fruit, do not till the ſun has exhaled the moiſture, for if ſo, they'll ſpeck and rot; have a dry loft to lay them in, in wheat-ſtraw or ſhavings; pinch them not in gathering, for that rots them.

In the kitchen-garden you may continue to ſow radiſh, ſpinage, lettice, and winter herbs; tranſplant moſt herbs proper for eating or medicines; alſo aſparagus roots, ſtraw-

berries

berries and artichokes: clear your alleys and turn up vacant grounds.

In the flower garden, take care of the choice plants and flowers, and cover ſuch, as you remove not into the conſervatory before the end of the month, if the weather come ſharp, and preſerve your Marum Syriacum, Ciſtus, Nocte Olens Germanicum, Flos Cardinalis; choice ranunculas, ſeedling arbutus, anemones, the covering of mat or canvas, being warm or cloſe; but archwiſe a foot above them, not to preſs or injure them; place them, if in pots or caſes, againſt a ſouth wall, and let them ſtand ſometimes ariſing in the middle of the day, when the ſun ſhines till April; this month plant tulips and bulbous roots that are not very choice, but the choiceſt reſerve to the end of the next month; ſow auriculas, crocus, cowſleps, primroſe ſeeds, and ſcatter a little unſlacked lime and powder of brimſtone among the moulds, to prevent infects deſtroying the ſeed.

OCTOBER's Obſervations.

In ths orchard, this month prune what is wanting, looſing the earth about the roots of trees, the better to enable them againſt the cold; plant and tranſplant ſuch trees as have their leaves fallen off, alſo tranſplant wall-trees that are of two years graſting or more; at the end of this month, you may lay bare the roots of old unthriving trees, or ſuch as bloom over haſtily, or have their fruit dry; the beſt time is in the moon's decreaſing; ſow onions before gathered and kept in ſand till now; ſet them three inches deep, the ſharp ends uppermoſt; cover them with fern or ſtraw, againſt the cold blaſt, but in the ſpring remove it.

In the kitchen garden, ſow ſtill winter ſallads and roots; dig and trench the grounds, laying it light in the ridges, that the froſt may mellow it; prepare dung for the trenches, to mix with the mould in the ſpring, and trench your alleys for the rain or ſnow-water to paſs away, that it may not lie ſobbing to cauſe ſterility in the earth.

In the flower-garden, ſet ſuch choice tulips as are not yet diſpoſed; ſow all their ſeeds; plant anemonies and auriculas in prepared earth; and as ſoon as they appear above ground, cover them from froſts, or they die; remove the choiceſt gilliflowers,

gilliflowers, where they may be ſheltered from the wet and ſharp winds; trim them up with freſh mould, and cover ſuch as cannot be removed, leſt the ſnow deſtroy them.

NOVEMBER's Obſervations.

In the orchard, be careful to ſupply your nurſery with ſtocks for grafting; lay bare the roots of old fruit trees, and lay warm dung about them; moſs and prune them.

In the kitchen-garden, turn up the melon and cucumber ground, mixed with dung; lay the mold in ridges, that it may mellow againſt the ſpring; trench and fit up your ground deſigned for artichokes, crop aſparagus, and cover it well with dung or wet litter, and prepare your beds to plant it in the ſpring; ſow and ſet early peaſe and beans.

In the flower-garden, cover peeping ranunculas, and ſow auricula ſeeds; plant fiberous roots; as aletia frutex, roſes, ſyringas linaz, &c. And ſee that no tender roots, that cannot be conveniently removed, be uncovered.

DECEMBER's Obſervations.

In the orchard, plant vines and ſtocks for grafting; prune trees that are well grown, and ſtandars; alſo wall-trees bearing fruit.

In the kitchen-garden you may yet continue to ſet or ſow early peaſe or beans; trench ground, and dung it, that ſo you may make commodious borders in the ſpring; you may now, if the weather be open, tranſplant your fruit trees, ſuch as be hardy, but not thoſe that are too much ſubject to be pierced by the cold winds.

In the flower-garden, take care that your anemony, ranunculas and gilliflowers, that are choice, be not expoſed to the wet, ſharp winds, or nipping froſts; but if the weather be open, ſet the beſt ranunculas in a bed of old rotten thatch or ſtraw, which have been mixed with choice mould that is rotted, and near turned to earth, with good mould above and below them; ſet in a rich loamy mould the beſt anemonies; let it be finely ſifted through a wire ſieve, and this done, you will have time to refreſh yourſelf, and, for a while, reſt from your labour, to enjoy in due ſeaſon the profit and pleaſure of it.

BOOK II.

OBSERVATIONS on HUSBANDRY.

HAVING already treated of gardening, and directed the gardener how to order matters for every month in the year, I come now in the next place to direct the huſbandman in the management of thoſe affairs that are properly under his cognizance.

The firſt point of huſbandry is, to prepare the ground; the ſecond, to plough it well; the third, to dung it well. The ways of doing this are divers, according to the nature of every ſoil and country. Only take notice, that all great fields are tilled with the plough and ſhear, but the leſſer with the ſpade.

The ſeaſon of the year, and the weather alſo is to be obſerved in the ploughing of the ground: you muſt not plough in wet ground; nor yet after every little rain; that is, if after a great draught, a little rain falls which has not gone deep, but only wet the upper part: for the ground ought to be thoroughly mellowed, but not too wet, for if it be too wet, you can expect but little benefit that year: you muſt therefore obſerve that the ſeaſon be neither too dry, nor too wet; for much dryneſs will hinder it from working well; becauſe either the hardneſs of the earth will reſiſt the plough; or if it ſhould enter, yet it will never break the clods ſmall enough, which will be hurtful to the next plowing. But if your firſt ploughing has been in a dry ſeaſon, it will be neceſſary to have ſome moiſture in your ſecond ſtirring, which will make alſo your labour the more eaſy. When the ground is rich and wet withal, it is to be ſtirred when the weeds are full grown, and have their ſeeds in the top, which being ploughed ſo thick, that you can ſee where the coulter hath gone, utterly deſtroys them: beſides, through many ſtirrings your fallow is brought to ſo fine mould, that it will need very little harrowing when you ſow it. And ſo much depends upon the well ploughing of the ground, the huſband muſt try whether his ground be well plonged or not; for otherwiſe the

balks

balks being covered with mold, he may eaſily be deceived; to be certain therefore, let him thruſt down a rod into the furrow, and if it pierce alike in every place, 'tis a ſign the ground is well ploughed, but if it be ſhallow in one place, and deep in another, the ploughing is faulty. If you are to plough upon a hill, you muſt not plough up and down but over thwart, for ſo the inconvenient ſteepneſs is to be avoided, and the labour of men and cattle made more eaſy. But then you muſt be careful not to plough always one way, but ſometimes higher, and ſometimes lower, working aſlope as you ſee needful.

As to the ſeaſon of ploughing, it muſt be chiefly in the ſpring, the ground being in the ſummer too hard, and in the winter too dirty; but in the ſpring, the ground being mellowed is the moſt eaſy to be wrought upon; and the weeds are then turned in, and being plucked up by the roots before they are ſeeded, will not ſpring again, but help to enrich the ground. And therefore the middle of March is uſually the beſt time to begin ploughing. But yet if the ground be light and ſandy, it may be ploughed in the winter, if the weather will permit. A ſlender and level ground, ſubject to water, ſhould be firſt ploughed in the end of Auguſt, and ſtirred again in September, and prepared for ſowing about the middle of March. The light hilly ground is broke up by the ſun, and have no goodneſs remaining in it, being barren and without juice. But this ſhall ſuffice to be ſpoken of breaking up the ground.

Now if your ground be barren and cold, producing ſtore of weeds or ruſhes, to bring to a moderate heat, and ſo it make it fruitful, let it be manured with lime. The lime-ſtones may be had among quarries of ſtones, and in divers other places, and you may burn them in a kiln, in the moſt convenient place you have, to ſave the charge of carriage; and when you have ſanded your ground and backed it, make your lime ſmall, and on every acre beſtow thirty or forty buſhels of lime ſpreading it and mixing it with earth and ſand very well; and the ſtronger and ſharper the lime is, the better the earth will be, and you will find your improvement anſwer your labour. And here note, that it is no matter what colour your lime-ſtones are, weather white or gray, ſo that they be but ſharp and ſtrong in quality,

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to give a good tincture to the earth, it being the ſtrength and goodneſs of the lime, and not its beauty, that produces the profit. It is a great helper to a cold, clayey, wet ground. Such grounds are alſo very much helped by laying dung, or any ſoil that is fattening, either of cattle, or ſuch as is caſt out of pond-lakes, or muddy ditches, for barren and hot earth can never be overlaid with good manure, or compoſt, for that warms the earth, and it is the want of warmth makes it unfruitful.

As for the hacking and ſanding before mentioned, the firſt is, after the ground has been turned up with the plough, to go over it with a long hoe, or hack, and cut in pieces, the graſs which you ſee turned up with the ridges or furrows, or any uneven lumps, that it may be dragged away, burnt, or carried together with the weeds, not to grow up again to encumber the corn. And ſanding it, to bring loads of ſand, and lay them in convenient places, ſpreading them lightly, or thick, as you ſee occaſion over the ground, that the lime mixing with it, may the better imbody with the mould, and ſoak in with the rain, to the heartning the ground, and producing a good crop.

But beſides what I have already mentioned, there are ſeveral other ways of manuring land; I will mention ſome of them for the huſbandman's better information. But here it will not be amiſs to take notice, that what will do well for one ſort of land will not do at all for another; and therefore in manuring of land, regard muſt be had to the nature of it; as for example, for a barren claved ground, lime and ſand is excellent to manure it with, for a barren ſandy ground, good marle is much more proper. If it be be aſked what this marle is, I anſwer, it is a rich cliff clay, an enemy to all weeds that ſpring up themſelves, and gives a generative virtue to all ſeeds that are ſown in the ground, it is of a glewy ſubſtance, in quality cold and dry, and was earth before it was marle, and being turned into marle, it is nothing but a rich clay of diverſe colours, according to the ſtrength of the ſun, and climate where it is produced. This is ſo good manure, that well laid on, it will enrich the barreneſt ground for ten years, and ſome for thirty. To find it take an auger whemble, made to hold many bits, one longer than another, till you have tried, by drawing the earth into

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one place, then proceed, the moſt proper places are in the loweſt parts of high countries, near the brooks and lakes, and in the high parts of low countries, upon the knowls or little hills, and in the cleſts of ſteep banks, or branches in hills opening themſelves; in ſome places it lies deep, in others ſhallow, and commonly barren ſandy grounds are verged with it, lying very deep. Having found it, dig it up in great lumps, and lay in heaps a yard diſtance one from the other, and when it is dried; ſpread all the heaps, many mix the marle with the ſand. But becauſe this is not ſo eaſy to come by, I will ſpeak of others more general, that will enrich any poor ſand, or clay for grain, with leſs trouble and coſt than before.

Woollen rags are very profitable for manuring and enriching of land, a ſackful and a half being ſufficient for dreſſing an acre of arable ground. The way of uſing them is to chop them very ſmall, and ſpread them an equal thickneſs over the land before the fallowing time, and then coming to fallow, let the plough take'em carefully into the ground, and cover them.

Shavings, or waſte horns, or hoofs of beaſts, are very good to manure land withal; ſcatter the ſhavings in the ſame manner. Theſe will keep the ground in good order, like quantity as the rags, and plough 'em in after heat for five years together, without any renewing. The hoofs of cattle are approved for this, and may be had of trotter and tripe-men, &c. and muſt be uſed as the rags and ſhavings. Soap aſhes, when the lye has been drained from them is of excellent uſe in this caſe, and has beſides the property of killing weeds and inſects that breed in the ground, and eat up the corn. The hair of beaſts enriches land, being ſtrewed and ploughed in, and there let lie to rot. Alſo malt duſt is much available to this purpoſe, allowing three quarters of it to an acre. And to enrich your dung on the lay-ſtall, is to throw often beef broth, and other waſte broths upon it, as alſo ſoap-ſuds; and in ſo doing, one load will be worth three of the ſame kind that is not ſo uſed. But ſo much ſhall ſuffice as the manuring of the ground.

In ſowing of your ſeed, let your grain be the beſt, and ſcatter it according to the art of good huſbandry, and let

your

your ſprinkling be a medium, not too much, nor too little. But to make the ſeed proſper the better, ſteep it in thick ſlimy water that drains from dunghills, and if no ſuch be to be had near hand, ſteep cow-dung in water, and ſoak the ſeed in it: wheat will be well ſoaked in 18 hours; barley in 36; peas in twelve; but rye and oats may be ſowed dry; for that agrees beſt with them.

But when the ſeed is ſown, all is not done; you muſt take care to prevent the deſigns of thoſe that will make void all your labour, and defeat your hopes; or elſe, tho' you have ſown your corn, you ſhall never ſee it come up; rooks, crows, and daws, are great devourers of grain, who will be ſure to be about you, when you go to ſow; to keep theſe at a diſtance, ſhoot ſome of them, and hang them upon poles in divers angles of your field, ſtick their ridges of the land; lay trains of gun-powder, and blow the powder up, or let it lie ſcattering in the moſt frequented places, and the ſcent of it will make them forſake the field; eſpecially now and then ſhooting a little. You may alſo take great numbers of them, by placing ſtrong thick brown paper, twiſted taper-wiſe, like thoſe on ſugar loaves, in holes of the earth, the broad top coming even with the ground; bird lime the inſide, and ſcatter ſome grain in it, and then the fowl putting in his head to take it out, the paper ſo limed will ſtick cloſe, and riſe with him, when being blindfolded, in amaze he will fly up a great height, and will fall down again; ſo that if you be near at hand, he may eaſily be taken. Alſo the ſcattering nux vomica, mingled with paſte, if taken by them, as it ſeldom miſſes, will make them ſo ſick that they will forſake the field. If you lime your corn, they will forſake it; and ſo they will, if it be ſteeped in water wherein wormwood has been boiled, or infuſed; or elſe ſprinkling your corn with the dregs of bitter oil; and it will do the like, by making them to caſt it up ſick, and ſo not deſirous of any more: And theſe with hanging bunches of feathers on lines or ſticks, that the wind may dangle and twirl them about, may help to preſerve your corn when newly ſown; and this laſt alſo may be uſeful when it is ripe. But theſe directions relate only to fowl; who, notwithſtanding all you can do, will be ſure to come in for a ſhare with you.

But there are other deſtroyers of your corn beſides birds; which you muſt likewiſe take care to deſtroy; amongſt which are the piſmires or ants, who will do a great deal of miſchief by biting off the chits or ſprouts, ſo that it will never grow, but rot in the ground: To prevent this, ſearch the corn fields well, eſpecially under the hedges, and the roots of hollow trees, or on the tops of hills caſt up; and if you find them there, put your limed water ſtrong and hot among them. For want of lime, make a lye of wood aſhes, and it will do the ſame, tho' not ſo effectually.

Another devourer of corn, are your dores, or great black beetles, which lie under the clods, and in ſprouting time do much miſchief: To deſtroy theſe make great ſmoaks in your fields, in a ſtill night, or when there is a little breathing wind that may carry it over the ſurface of the ground, with wet rubbiſh or mouldy pea-ſtraw, hay, or ſuch like, and it will kill them, or chaſe them out of the ground; for they are, of all other creatures, the greateſt enemies to ſmoke, and can leaſt endure it. But if your ground be limited, or that you ſow lime among your corn, you may trouble yourſelf with them no farther; for if they bite where the lime has touched, it kills them.

The next vermin to be deſtroyed are field rats and mice, and water rats alſo; for theſe deſtroy a great deal of grain: which to prevent and ruin them, find out their round holes when the field is bare, and put hemlock ſeed into them, which they will eat, and it will kill them; the ſprinkling of juice of hellebore in them, will alſo do the like. But that which I prefer above the reſt is, to beat common graſs very ſmall, and mix it with a little copperas, vitriol, and coarſe honey, and make it up in pellets, and ſcatter it in their haunts, in the mouth of their holes, or other likely places, and the ſecret will draw them from all parts, and once eating it, they will certainly die. This alſo may be uſed in granaries and barns, for other rats and mice, with good ſucceſs.

Slugs and ſnails, are another ſort of devourers, which do much miſchief to corn and peas juſt ſprouting up; to kill theſe, the beſt thing is ſoot or lime ſprinkled thin, over the ground; for touching it they will die.

Graſhoppers alſo do much injury, by feeding on the leaf

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and bloſſom of corn and pulſe, from the firſt to the laſt: Theſe are not eaſily deſtroyed, the beſt way to be rid of 'em is, by ſpringling corn with water, wherein wormwood, rue, or centaury has been boil'd, till the ſtrength of them are taken away by the water; and if they bite where the ſprinklings happen, they will die. The ſcent of any bitter thing being ſo offenſive to them, that they are never found where any ſuch things grow.

Moles are another thing to be deſtroyed, for they are in a double regard deſtructive to corn; that is, in eating the roots, and rooting it up; Not making diſtinction of any ſort, but taking all alike. There are divers ways of taking them, but not ſo eaſily when the corn is full grown, for then they do the greateſt miſchief, when their tracts, or caſting up of their hills cannot be diſcovered ſo eaſily; however, you muſt do as well as you can; and when you ſee them caſting, or moving in their tracts, ſtrike them with an iron of many ſpears, or dig pits in their tracts, and ſet earthen glazed pots which they will blindly fall into, and cannot ſcramble out; or fill an earthen jug with pitch, roſin, and brimſtone, with ſome looſe toe or rags, and firing it, clap the neck to the mouth of the hole, and the air in the earth drawing in the ſcent to a great diſtance, will ſtifle them; or mix juice of hellebore with rye meal, ſcatter little bits in the furrows, and finding it in their way, and finding it in their way, they will greedily eat it, and die.

Having ſhewed you how to deſtroy ſuch vermin as are devourers of corn, it will now be neceſſary to ſay ſomething about weeding of your corn when it is ſprung up; for weeds are very offenſive and deſtructive to corn, hindering its growth, and choaking it up.

When the corn is ſprung up about a foot above the ground, thoſe ſorts of ſoil that are apt to produce weeds, will require your looking after, to root them out; if they be thiſtles, or ſuch as are great and offenſive, they muſt be taken away with hooks and nippers, cutting them off cloſe by the roots, or rather pulling them up by the roots, if you can do it without breaking the ground, ſo as not to bring corn along with them. The nipper may be made with two long pieces of wood rivetted, to be opened like a pair of pincers, with

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ſaw teeth, cloſing into one another, that they may take the ſurer and firmer hold without ſlipping. And theſe weeds may be much hindered in their growth, by ſowing of two buſhels of bay ſalt in an acre of land, as you do your wheat, after the grain is ſowed: For tho' it is a friend to corn, in making it proſper and increaſe, yet it is an enemy to the weeds, and hinders their growth.

2. *How to turn barren Land into good Paſture and Meadow.*

Hitherto I have been ſpeaking of the ordering of corn, I come now to ſpeak of enriching the earth for meadow and paſturage, and this is done two ways, viz. By watering and manuring it. And for this uſe, the lower the land lies, ſo it be not ſubject to overflowings or too much wet, the better it is, and the ſooner made good. Conſider, in the next place, what kind of graſs it naturally produces, whether clear and entire, or mixed with that of worſer growth, the firſt is beſt; but if it be of a worſer ſort intermixed with thiſtles, broom, and offenſive weeds, then grub and pluck them as well as you can; then dry them, mix them with ſtraw, and burn them upon the ſwarth of the ground, and ſpread the aſhes upon it; then fold your ſheep upon the ground for ſeveral nights, that their dung may increaſe its ſtrength, and their feet trample up the graſs: Then ſcatter well over with hay-ſeeds, and go over them with the rowler or beat them with a flat ſhovel, that they may be the better preſſed into the ground, to take root; then over theſe ſcatter hay, or the rooting of hay under ſtacks, or the ſweepings of the barns, or moiſt bottoms of any hay that has been good, and is moiſt, and of no other uſe; then ſpread on your manure, as horſe dung, man's ordure, or the dung of any beaſt; which being thinned, and the clots well broken, let it lie till the new graſs ſprings through it; but do not graze it the firſt year, leſt the cattle tread upon it, not having taken very good root; but mow it, that it may have time to come to perfection: And tho' the firſt year it may prove ſhort and coarſe, yet the ſecond it will be fine and very long, and in great plenty. And dreſſing it thus but once in twenty years, will continue it

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for good meadow or paſture; eſpecially if in dry ſeaſons you have water to relieve it, which may be done by bringing ſprings through it, or gathering the violent fallings of rain into a ditch on the other ſide of it, or any other conveniency, according to the ſituation of the ground, on the aſcending part, to overthrow it ſo long, that it ſoaſt deeper than the roots of the graſs, to continue its moiſture for the nouriſhment of it for a conſiderable time. And note here, that the beſt ſeaſon for watering of meadows, is from the beginning of November to the end of April; and the muddier or more troubled the water is, the better, for then it brings a ſoil upon the ground; and this generally happens after haſty ſhowers, and great fluxes of rain. And if you have many fields lying together, eſpecially in a deſcent, you may make a conveniency in the uppermoſt, to pen up the water till it is very well ſoaked; and then by a ſluice, or breaking down of a dam, let it into the next; and ſo by a ſmall addition of water, tranſmit to many.

Fitzherbert, judge of the common pleas in the year 1525 was the firſt perſon who wrote on the ſubject of agriculture in England, and whoſe familiar ſtile is a proof that he meant to ſerve the cauſe. His excellent inſtructions reſpecting the management of land and of cattle, render him one of the greateſt ornaments of the age in which he lived.

BOOK III.

THE ART OF

Breeding and Managing of BIRDS.

Of Canary Birds. Their Manner of Breeding, Feeding, &c.

CANARY BIRDS ſet fourteen days upon their eggs, generally lay four, five, or ſix eggs in a neſt, and will have

have four or five neſts in a year. Match your birds about the middle of March, by putting them in a common ſized cage, for about a fornight; when turn them into a large cage or room, made convenient for that purpoſe; and ſo ſituated as to have the morning ſun.

If you breed in a large room, you may turn in eight, ten, or twelve pair of birds; more or leſs, in proportion to the ſize of your room or cage. Put boxes for the neſts in different places, always allowing more boxes than pairs of birds; as they not only love room, but it frequently happens the hen will go to neſt again before the firſt can fly, and will leave the cock to feed them: it has happened in this caſe that a vacant box not being to be found, they have built again upon the former, and thereby deſtroyed the young ones.

Leave the birds in the neſt till the hen hatches again, when take the former away, otherwiſe they will be neglected, or ill-treated, by the old ones. If you mean to bring them up by the hand, take them away at twelve or fourteen days old, and feed them as you do linnets. To feed thoſe brought up by the old ones, take the yolk of an egg, boiled hard, mixed with as much bread, and a little ſcalded rape-ſeed, bruiſed fine, together with a ſmall quantity of maw-ſeed, and give them a freſh pan full every day. A little ſcalded rape-ſeed, and rape and canary mixed, may alſo be given them: chickweed and groundſel may be given occaſionally. About the month of June, give them ſhepherd's puſs, and in July and Auguſt plantain. Supply them with elks hair, fine hay, and ſoft feathers, for making their neſts.

Though theſe birds are ſubject to many diſtempers, yet with due care they will live many years. Too many greens, eſpecially chickweed that is rank, will bring on a ſurfeit, which cauſes a ſwelling under their bellies, full of red veins; this ſwelling in its firſt ſtate is white, then if not ſtopped will turn red, and laſt of all to a black ſwelling, which few ſurvive. Moulting, though natural to all birds, is ſtill very dangerous, and frequently proves fatal. The ſymptoms of this diſorder, are there appearing rough and melancholy, ſleeping much in the day with their heads under their wings; and it is ſometimes attended with a ſmall pimple on their rumps, called the pip on the tail.

As we have mentioned ſome of the diſorders, incident to theſe kind of birds; we think it neceſſary alſo to point out ſome remedies. In caſe of a ſurfeit, put plenty of oatmeal amongſt the ſeed, for three or four days, and liquorice in the water; which will cleanſe him: but in caſe the bird is too laxative, give him maw ſeed, and bruiſed hemp-ſeed, inſtead of oatmeal; alſo a little groundſel; put ſaffron in his water, and draw ſome of his tail feathers. Boiled milk and bread, with maw-ſeed mixed in it, is alſo very good, and may be given as a change of diet.

Another receipt for the ſurfeit or common ſwelling is, a ſmall quantity of millet-ſeed, an equal quantity of hemp, maw, rape, and canary; let them be juſt boiled, then cut about a quarter of an egg, boiled hard, in ſmall pieces, and put to the ſeeds, alſo add a double quantity of lettice-ſeed. Previous to your giving the bird this compoſition, put treacle in his water, for three or four mornings; when you have obſerved him drink two or three times in a morning, rince out the pot or glaſs, and fill it again with clean water.

When your birds are in moult, be very careful of keeping them warm, and give them nouriſhing food, ſuch as Naples biſcuit, bread and egg, bruiſed hemp-ſeed, lettice and maw-ſeed, with a little ſaffron in their water, if the weather is not too hot; if it is, ſteep a piece of liquorice; and let them have plantain, and lettice-ſeed together. In caſes of danger, a little of Naples biſcuit, ſteeped in white wine, may ſometimes be ſerviceable. When the bird is troubled with the pip, and it becomes full of matter, let it out with a fine needle, as gently as poſſible; afterwards put a bit of moiſtened ſugar on the ſore.

Another diſtemper, ſometimes attends theſe birds, which appears on the head, with a yellow ſcurf, covered with ſmall ſcabs; this ſhould be anointed with oil of ſweet almonds, freſh butter, or ſweet lard; adminiſtering the ſame food as before directed.

Of the BLACK BIRD.

How to diſtinguiſh the Cock from the Hen, &c.

BLACK BIRDS are much eſteemed for their melodious ſong; they may alſo be taught to whiſtle to a pipe, in

a moſt delightful manner; with this enchanting muſic he will entertain you four or five months in the year, and in general is reckoned a hardy bird.

They breed ſoon in the year, having young men in April, and ſometimes ſooner; which may be taken from them at ten or twelve days old. Their food is generally ſheep's heart, or any lean meat, cut ſmall and mixed with bread. When young keep them clean, and give them moiſt victuals every two hours, ſuch as milk and bread, cheeſe, curd, &c. When out of order, give them ſpiders, or wood-lice, but not too many in a day; put alſo a little cochineal in their water.

We would recommend in the choice of a bird, always to take the blackeſt, which is eaſily diſcerned in the neſt, and theſe ſeldom fail of proving cocks.

Of the SKY LARK.

How caught, Method of Feeding, &c.

THESE birds, are in general very long lived, and very hardy; having been known to live upwards of twenty years. They will entertain you moſt agreeably eight or nine months in the year with their ſong; if kept from the hearing of other birds, or otherwiſe brought up under a ſong-bird. They generally have young ones about April or May, and will breed three or four times in a year; which is commonly in fields of high graſs, or in the maſhes. They ſhould be about ten or twelve days old when you take them from the neſt: feed them with bread and milk, boiled ſtiff; with which alſo mix about a third quantity of rape-ſeed, boiled and bruiſed; let them be fed every two hours, and be ſure to give them freſh victuals every day. In about three weeks or a month, they will be able to feed themſelves; when give them give dry meat, ſuch as bread, egg boiled hard, and hemp-ſeed bruiſed; put ſome gravel at the bottom of the cage, alſo a turf of three-leav'd graſs.

The largeſt and longeſt birds in the neſts are generally found to be cocks. Many methods are uſed in catching theſe birds. In the months of June or July they are taken with a hawk

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and net, and are then called branchers; the meaning of which is, a bird that has flown about two or three months; is full grown, but has his neſtling feathers. To catch theſe birds, get a net about twelve or thirteen yards long, about three or four broad, with a line run through the middle; you muſt alſo have a hawk, which ſhould be carried by one perſon, while another holds the end of the line: when you find a flock of birds, get as near them as you can; then ſhew your hawk, at the ſame time fluttering his wings; the birds will then, through fear, lie cloſe to the ground, when the net may be ſpread over them.

The ſky-lark may be taken in flight with a clap net, like other ſmall birds. They are alſo taken in dark nights, with a trammel net about thirty yards long, and ſix over; run through with ribs of pack thread; this is placed upon two poles, ſixteen feet long, and taper at each end; which muſt be carried by two perſons, about half a yard to the ground; frequently touching the ground, in order to raiſe the birds; when they fly againſt the net you are certain of having them, and muſt let the net immediately fall. This net is alſo uſed in catching quails, wood-cocks, partridges, &c. Another method of taking theſe birds is, when there is a great ſnow on the ground. Get a quantity of pack thread, and at every ſix inches make a nooſe, with two horſe hairs twiſted together, and at every twenty yards faſten it to the ground with a little ſtick. Scatter ſome white oats amongſt the nooſes, to which the birds are ſure to come, and are caught.

The ſky-lark is generally a hardy, fine, ſtrong bird, and very ſeldom out of order; but if it ſo happens grate a little cheeſe in his victuals, and give him three or four wood-lice in a day, and ſometimes a ſpider; put alſo a little liquorice and ſaffron in his water, which is all that is neceſſary for theſe birds.

Of the WOOD-LARK.

THIS bird is much admired for his fine melodious pipe, and pleaſing variety of notes. His ſong continues about nine months in the year, and is eſteemed by ſome fanciers

ciers ſuperior to that of the nightingale. The ſame method is made uſe of in taking theſe birds as before directed for the ſky-lark, in the months of June or July, when they are termed branchers; but thoſe caught at Michaelmas generally prove beſt, and may be eaſily taken with clap nets, which ſhould be placed upon high ground; the birds flying high at that ſeaſon. When firſt taken, ſtrew ſome bruiſed hemp-ſeed and bread on the gravel, at the bottom of the cage; as they will ſooner feed from the bottom, than in the trough; when they are come to their meat give them boiled eggs, chopt fine, and mixed with bread, hemp-ſeed, and maw-ſeed. You may alſo give them ſheep's heart, or any kind of meat that is not ſalt or over dreſſed; and let them have freſh victuals every day.

If a bird is ill, give him hog-lice or meal-worms; but not more than two or three in a day. If laxative, grate ſome chalk or cheeſe, in his victuals, and put mould, full of ants, in his cage, inſtead of gravel.

Some are of opinion the cock may be diſtinguiſhed from the hen by the largeneſs of his wings; others by the length of his heel, or ſetting up the crown upon his head; others again by the length of the bird; the cock being generally found to be the longeſt bird.

Theſe birds breed very early in the year, the young ones having been known to fly by the 25th of March. If you deſign to bring them up from the neſt; let them be well feathered before you take them, and feed them in the ſame manner as nightingales.

Deſcription of the TIT-LARK.

THIS is a very handſome bird, about the ſize of a nightingale, and eſteemed a very proper bird to raiſe others under; they generally having a very fine ſong. The moſt valuable amongſt them are thoſe that will chew, whiſk, weet and rattle; which ſome will do to great perfection; they will alſo run their feet, and their ſnee-jug, and twink different ways. They ſing from March to July, and are generally caught the latter end of March, and beginning of April, with clap nets, or lime twigs, like linnets or other birds. When firſt caught,

give

give him ant's mould in his cage, and bread grated and mixed with hemp-ſeed, bruiſed very fine; with which you may alſo put two or three meal-worms, cut in half. If ſet in a light place, and not diſturbed, he will ſoon be brought to feed: after being treated in this manner two or three days, you may feed him as the ſky or wood-lark, and he will ſing in a very ſhort time.

Some Account of the NIGHTINGALE.

Methd of Catching, Feeding, &c.

THIS bird is eſteemed the fineſt of all the feathered race; his natural ſweetneſs, and ſtrength of voice, creating a harmony infinitely ſuperior to that of any other bird. This agreeable muſic he will continue about ſeven months in the year, and ſo jealous is he of a rival, that he would continue his notes till he fell from the perch, rather than be outdone by any other bird. It is remarkable of theſe birds that they are never ſeen in winter in any part of the world: various are the opinions concerning their flight, but it is all mere conjecture, as no one yet was ever able to diſcover their real ſettlement in the winter ſeaſon. Thoſe birds that are caught before the middle of April generally prove cocks, at which time the hens arrive.

There are many ways of taking theſe birds at different ſeaſons: the branchers are caught in July or Auguſt, but thoſe taken in the mouth of April generally prove the beſt birds. One method of taking them is by digging a hole in the earth and placing a board or tile over it, ſupported by a ſtick, on which put two or three meal-worms, which the bird coming eagerly to devour, falls into the hole and is taken. They may alſo be taken with lime twigs; but the beſt method we apprehend is with the nightingale's trap. This trap is about the ſize of a round trencher, and may be made with a ſilk net, a watch-ſpring, and a round wire; to which the net is faſtened; there is alſo a cork that comes through; likewiſe a ſmall ſtring, which holds up the trap, in which ſtick a meal-worm, and the cork very ſlight in it: the bird ſeeing the worm, will endeavour to get it, by which means he will draw the net on himſelf.

Theſe

Theſe birds are generally found by the ſide of a ſandy, or a chalk hill, alſo in a wood coppice, or quick-ſet hedge. When you have caught a bird, tie his wings, and pluck the feathers from his vent, which will otherwiſe clog up, and occaſion his death.

When firſt taken, feed them with ſheep's heart, and egg, cut in ſmall bits, three or four of which muſt be given them every two hours at fartheſt. When they have been crammed in this manner about too days, put ſome meat in their pan, filled with ants; put alſo ant's mould at the bottom of their cage; this will learn them to feed themſelves in a ſhort time, but don't leave them to themſelves too ſoon.

There are many different ſorts of food, and methods made uſe of in feeding theſe birds; but what we conceive to be the beſt is this, in ſummer time take a ſheep's-heart raw, and chop it very fine, alſo boil an egg hard and grate it; put one egg to one heart, or a ſmaller quantity in proportion, as their victuals ſhould always be moiſt, otherwiſe it makes them vent-bound. Sprinkle a little water upon the egg and heart, and mix them together till it is almoſt as thick as a ſalve. Take great care to get the ſtrings all out of the heart; as they ſometimes get about the tongue, which will kill them in a ſhort time: when this caſe happens, which may be known by their gaping, and endeavouring to vomit, if poſſible open his mouth, and draw out the ſtring with a needle, after which give him a meal-worm, or ſpider. In winter, the heart ſhould be par-boiled, and in ſtead of water, uſe the liqour the heart was boiled in; but be careful none of the fat gets amongſt it.

The nightingale generally builds her neſt (which is different from every other bird,) in a cloſe quick ſet hedge, where there is great ſtore of briars to defend her from her enemies. The young birds are generally fit to take about the middle of May; but let them be well feathered firſt. If taken too ſoon, they will be ſubject to the cramp and looſneſs; which will occaſion much difficulty in rearing them. While young put ſtraw, or dry moſs, in the cage; but as they grow older, give them ant's mould, as before directed. Learn them alſo to feed upon flies, ſpiders, or meal worms, being very nouriſhing, and in caſe of ſickneſs abſolutely neceſſary. Let them have plenty of water to dabble and waſh themſelves in, as it is impoſſible ever to rear good birds without great cleanlineſs.

Deſcription

Deſcription of the ROBIN RED-BREAST,

With a genuine Anecdote.

THIS bird is much admired, and for ſweetneſs, is thought to be little inferior to the nightingale. They generally breed three times in a year, viz. April, May and June; making their neſts with moſs, wool and hair; and commonly produce five or ſix young ones, but ſeldom leſs than four. They frequently appear in the winter on the tops of houſes and ruinated places, where they alſo build their neſts. You may take them from the neſt when about ten days old; if older they will be ſullen, and conſequently more difficult to bring up, Feed them as you do nightingales, with ſheep's-heart, egg, or any kind of freſh meat, minced ſmall. Take care to keep them warm, and give them inſects occaſionally; particulary ſpiders, of which they are very fond.

Theſe birds are taken with lime-twigs, and alſo with a trap-cage, and meal-worm. If a cock and a young bird, he will ſing in a ſhort time. The breaſt of the cock is of a brighter red than that of the hen, by which they are eaſily diſtinguiſhed.

Theſe birds are frequently ſubject to the cramp and giddineſs, and will ſometimes fall off their perch; to prevent which, keep them warm and clean. When you find him droop, ſpiders, or meal-worms, will much refreſh him. When the giddineſs appears, an ear-wig now and then will be found very ſerviceable. When his appetite fails, gave him hog-lice, and take care that he has freſh water two or three times in a week; and occaſionally, put a little ſaffron, or ſtick-liquorice in it, which will help his ſong, and make him chearful and long winded.

We ſhall cloſe our account of the robin with relating a remarkable and unprecedented inſtance of a gentleman's breeding theſe birds in a cage; which, however extraordinary it may appear, is a known fact, and can be well authenticated.

This gentleman's chief delight was in bird's; in purſuit of which pleaſure he had acquired ſo much experience as held him high in eſtimation amongſt the fancy. In the courſe of his ſtudies, he had endeavoured for a ſeries of years to breed robins in a cage, which was hitherto thought impracticable; in which, after great expence, and many fruitleſs efforts, he at length

length ſucceeded: three young birds were produced, each of which proved a fine cock, and ſurvived many years. At this gentlnman's death, one of theſe birds was given as a preſent to the writer of this narrative, who, after keeping him about two years, through a fatal neglect in giving him water, found him dead one morning, in his cage. This bird was equal, if not ſuperior, in ſprightlineſs, ſtrength, and ſong, to any robin ever yet produced.

The LINNET deſcribed.

THIS is eſteemed a very good bird, and willlearn to imitate the note of any other. They generally breed about April, and build their neſts among furzes, or upon heaths or commons. They have three or four neſts in a year, and commonly four or five young ones, which you may take when eight or ten days old.

Feed them when young with boiled bread and milk, mixed with a little rape-ſeed, ſcalded and bruiſed; and let them be fed every two hours. When able to feed themſelves, give them ſome wood lark's meat, till they can crack the ſeed; which will be in about ſix or eight weeks.

The cocks may be diſtinguiſhed from the hens by the brownneſs of their backs, and the white feathers upon their wings.

Of the CHAFFINCH.

THE chaffinch is a very hardy, ſtout bird, and has a great variety of notes. The neſtlings or branchers will hold their ſong ſix or ſeven months in the year; the wild ones not more than three: they are generally brought up under other birds.

They breed two or three times in a year, beginning in May. Take the branchers in June or July, when they are about ten or twelve days old, and feed them as you do linnets.

The cocks are red on the breaſt, and the hens gray.

Deſcription

Deſcription of the GOLDFINCH.

THIS is a very lively bird, and has a very pleaſing ſong of his own; but they generally take it from a wood-lark, or ſome other bird. They breed in April, and have three or four neſts in a year. When brought up from the neſt, feed them the ſame as linnets, with this difference only, give them canary inſtead of rape-ſeed, and you may put a little Naples biſcuit among it. Canary-ſeed alone is the beſt food, which you muſt endeavour to bring to as ſoon as you can.

If ſick, give them ſaffron in their water, and a little groundſel. Always keep gravel in the cage, and when laxative crumble a little chalk in it. You may alſo give them lettuce or thiſtle-ſeed.

The cock may be known at any time by the edges of the wings being black up to the ſhoulder: the bill is alſo black, and under it red, and the colours in general of the cock are much brighter than thoſe of the hen.

Of the BULFINCH.

THIS is a bird of great beauty, and eſteemed very valuable if properly taught. His natural ſong is very indifferent, but he may not only be learned to pipe any tune at command, but alſo may be taught to ſpeak.

They generally build in an orchard or wood, have two or three neſts in a ſummer, but ſeldom have young ones till the latter end of May. Theſe birds doing much miſchief to the wall-fruit, are often deſtroyed by the gardeners; by which means they are not very plenty in England.

You may feed and bring up this bird the ſame as a linnet. After they have been caged about a week, you may talk, whiſtle, or pipe to them; which they will imitate in a very ſhort time.

The beſt method of diſcovering the cock from the hen is, when about three weeks old, to ſtrip a few feathers from the breaſt; if a cock, they will grow again in about ten or twelve days, as red as blood; if a hen they will appear of a pale brown.

The

The STARLING deſcribed.

THIS is a very hardy and pleaſing bird, his ſong is very indifferent, but he may be taught to whiſtle, pipe, or or talk as diſtinctly as a parrot: They breed in trees, pigeon-houſes, or the ſide of dwelling-houſes. Feed them, when young, as the blackbird; but when able to feed themſelves, bring them up like the wood-lark.

The cocks have a black ſtroke under their tongue, which the hen has little or none of; when moulted off, the breaſt of the cock is finely marked with beautiful colours, of which the hen is quite deficient.

Of the THRUSH or THROSTLE.

THERE are various ſorts of theſe birds; the firſt is called a red wing, the next a ſong-thruſh; there is alſo the meaſle-taw thruſh, &c. The wood-ſong thruſh builds his neſt with moſs; is a very fine bird, and ſings nine or ten months in the year. The heath-thruſh is nearly the ſame, but builds his neſt in furzes. They breed very ſoon in the year, and are fed the ſame as black-birds.

Of the WREN.

THIS is the ſmalleſt of birds, but has a fine ſong and very ſtrong pipe. They make their neſts about the beginning of May, with green moſs, lined with ſmall hair: it is in the form of a high crowned hat, with a round hole in the ſide, to get in at. Let them be well feathered before you take them from the neſt, and feed them in the ſame manner as nightingales.

The TWITE.

THIS bird is exceeding lively and merry, and is a good companion for linnets or other birds; as by his continual ſinging others are encouraged to do the ſame. The cock has a red ſpot on his rump. Their food is the ſame as linnets.

The

The RED-START deſcribed.

THIS is a very beautiful bird, and has a very fine ſong. The cock has a black tail; the hen reſembles a nightingale in colour; like which bird they muſt alſo be brought up and fed.

BOOK IV.

Of the Management of HORSES.

THE neceſſity every traveller lies under of having ſome knowledge of the art of managing his horſe, and the many inconveniences frequently attending the want of this knowledge, are ſo evident that nothing need be ſaid to evidence the uſefulneſs of this article. I ſhall therefore, without any further preamble, give a few hints to aſſiſt my readers in buying ſuch horſes as are fit for the road, and then treat of their management under the accidents and diſorders to which they are liable.

As to the firſt part of this taſk, it is the more neceſſary ſince whoever would buy a good horſe, muſt know how to chuſe him himſelf, and never place the leaſt confidence in the words of a jockey or dealer in horſes.

Rules for buying Horſes.

If a horſe is young, his tuſks will be ſharp pointed and grooved, or hollowed on the inſide; but the jockies have the art of burning the corner teeth of an old horſe, after they have been cut with a graver, by which means they imitate the mark, and frequently deceive, yet the cheat is diſcoverable by other ſigns, as when he hath white eyebrows, he may be ſuppoſed to be about 15 or 16 years of age: the age of a horſe may alſo be known by the length and yellowneſs of his teeth, the leanneſs of the roof of his mouth, and the narrowneſs of the under jaw.

But it is not ſufficient that you are not deceived in buying an old horſe for a young one, the eye is carefully to be examined, leſt you ſhould buy a horſe that is blind, or that has ſome defect in his ſight. The beſt eye is of a hazel colour, and it is an advantage to have it rather large than ſmall; the part commonly called the ſight of the eye ſhould be perfectly bright and clear, without the leaſt dimneſs, ſo that you may ſee the bottom, and the image of your face reflected from thence and not from the ſurface, and you ſhould alſo obſerve, if upon the changing the ſituation of the horſe with reſpect to light, you can diſcern the ſight of the eye contract or dilate itſelf. This added to the clear tranſparency already mentioned, is a proof of the goodneſs of the eye.

But to proceed. Every man who buys a horſe ſhould chuſe one whoſe ſize and ſtrength are in proportion to the weight he is to carry, but in general a middle ſized horſe is beſt for the road, and one of 14 hands and an inch is of ſufficient ſtrength to carry any man under 15 ſtone.

After the jockey has exerciſed his horſe before you, you ſhould ride him yourſelf 2 or 3 miles on a rough uneven road, when you ſhould give him his head without forcing him by whip or ſpur to perform with more life and ſpirit than he is otherwiſe inclinable; if he walks, trots, and canters nimbly, without dwelling upon the ground, taking up his fore-feet moderately high, ſtepping longer or ſhorter, according as he finds there is occaſion, and going near before and wide behind, he his likely to carry is maſter well. But it is to be remarked, that the beſt proof of the excellency of a road horſe is trotting down hill, where it is pretty ſteep; for if he is able to perform this well, he is able to trot on any ground whatſoever.

Captain Burdon, in his Pocket Farrier, adviſes thoſe who want to buy, to obſerve that the horſe's knees are not broken. This is a very good caution, and it is what all people are, or ought to be aware of; yet as one who is no common ſtumbler may have an accidental fall, you ſhould obſerve whether the knees are covered with hard ſcars, which if they be, and the hair is curled about them, it is a certain proof of his being an old offender.

If a horſe goes clean, it is a pretty ſure ſign that he moves well upon his limbs, therefore, when you ſee a perſon alight at

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an Inn, with his boots tolerably free from dirt, you may almoſt venture to buy his horſe without ſeeing him exerciſed.

The horſe that has his breaſt full and prominent is very unfit for travelling; therefore, before you buy a horſe, ſtand right in a line with his head, and mind that his breaſt do not keep his knees too far aſunder, for the nearer he ſtands with his knees, provided he does not cut, the more reaſon have you to judge that he will travel expeditiously, therefore take particular notice that his breaſt be narrow, thin, and lean, his ſhoulder-points not projecting forward, and his fore-legs ſtraight and almoſt perpendicular.

To conclude this article, there is ſcarce a better property in a horſe than a ſound, tough hoof, that will abide hard road without much beating. A foundered hoof is very often long and deep, and ſhaped more like that of an aſs than of a horſe, but the good hoof is ſemicircular, and rather flat than otherwiſe.

Rules for travelling, with Directions for preventing and curing the Diſorders Horſes are incident to on the Road.

When you ſet out on a journey, obſerve, whether the ſhoes be faſt, whether they ſit eaſy, or whether they do not cut either before or behind. If a horſe cuts with bad thin ſhoes, he will probably do it when he is freſh ſhod; but this may ſometimes be helped by a good ſmith.

Moſt of the diſorders to which horſes are ſubject, are produced by the negligence or ignorance of the rider; and as they may be eaſily prevented by proper care; they are cured without difficulty, if taken in time. It is true it is much more eaſy to prevent diſeaſes than to cure them; for if a horſe be well curried, bruſhed, and wiped down with a cloth, morning, noon, and night, and duly exerciſed and well fed, he will ſeldom be out of order.

This advantage of currying and rubbing down is inconceivable; it promotes a circulation of the blood, opens the pores, and conſequently prevents a ſtagnation of fluids, promotes perſpiration, and is the readieſt way of preſerving health.

The moſt common cauſe of greaſe and ſcratches, are the careleſsneſs, the naſtineſs and indolence of the groom: for unleſs the blood is kept in a balſamic ſtate by proper exerciſe, clean, ſweet, and liberal feeding, that fluid, from which all the humours

of an animal body are derived, muſt conſequently become depraved. As exerciſe ventilates the blood, ſo keeping the ſkin clean and ſmooth, occaſions an eaſy perſpiration through the pore: for if after hard riding we ſuffer our horſes to lie with the ſweat drying upon them we run the riſk of a violent ſurfeit which is in fact the cauſe of moſt of the diſtempers incident to either human or brute creatures.

As we have mentioned liberal feeding, it may not be improper before we proceed farther to mention what quantity of oats, &c. a man ſhould allow his horſe on the road.

A full ſized horſe that has a good appetite, and travels hard, may be allowed every day about ſix quarts of oats, half a pint of ſplit beans, and a good handful of wheat mixed together.

What is here ſaid with reſpect to the quantity of oats neceſſary for a ſized horſe, may be a ſufficient guide as to what ſhould be allowed to thoſe of fourteen hands or under; therefore I ſhall only add, that he who will not allow his horſe the quantity of oats, &c. here mentioned, ſhould ride ſlowly, and make ſhort ſtages.

As we have been juſt mentioning the quantity of corn neceſſary to be given to a horſe on a journey, I ſhall give the young traveller ſome hints relating to his watering his horſe on the road, and then proceed to give directions for the cure of thoſe diſorders which are occaſioned by the want of following theſe rules.

When a horſe travels he perſpires very much, and may therefore be allowed to drink a little now and then, as opportunity offers, and this will greatly refreſh him; but you ſhould never let him drink much at a time, for if you ſuffer him to drink his fill, he will become dull and ſluggiſh; and beſides, if he be very hot, it may be attended with very bad conſequences.—However, when you come within a mile and a half, or two miles of the place you intend to bait at, either at noon or night, he may drink more freely, going a moderate trot afterwards, for by this means the water will be well warmed in his belly, and he will go in cool. Yet carefully obſerve, that if there has been no water, or he has drunk none on the road, never ſuffer your horſe to be led to water, or to have his heels waſhed immediately after you arrive at your inn; let him have water luke-warm after he has ſtood ſome time in the ſtable; for much miſchief has been frequently done by imprudent riders, who after having travelled hard, have let their horſes drink as much as they could, juſt after going into the inn or town where thee intend to lie.

The

The obſervations relating to currying, feeding, and watering your horſe, if carefully obſerved, will be of great ſervice, and contribute more than any thing elſe to preſerve him in perfect health.

How to preſerve a Horſe's back from galling.

Young horſes that have not been uſed to have their backs preſſed, are moſt ſubject to gall and warble, and therefore we cannot take too much pains in fixing the ſaddle and ſuiting it to the ſhape of the back, that it may bear as equally as poſſible upon all parts at the ſame time.

As ſoon as an inflammation is found to be coming on, which may be known by ſome places under the ſaddle ſweating, or continuing moiſt longer than others, eſpecially if the back be viewed ſome hours after the ſaddle has been taken off, theſe places ſhould be ceaſed by removing the ſtuffing, that the weight of the rider may preſs upon other parts that are not ſo much heated. Vinegar, urine, ſalt and water, &c. are frequently uſed to cool a horſe's back that has been hurt by being over-heated; but if the ſkin be broken in holes, it would be better to uſe equal quantities of ſpirit of wine, and tincture of myrrh and aloes, with a little oil of turpentine, and bathe the place with it now and then. There will be ſmall holes in theſe tumours (which are called warbles) before ſome people would imagine it; but if you uſe the ſaid tincture, you may proceed on your journey, you ought however to look frequently at your horſe's back, and not to hang upon him ſo as to make the inflammation ſpread. It would alſo haſten the cure if you would every hour walk a while on foot, and bathe the horſe's back with vinegar, or any thing elſe that is an enemy to putrefaction.

On the Navel-Gall.

The ſwelling called the Navel-Gall is a tumour on the vertebræ, or bones of the back, and is occaſioned by a contuſion of the ſaddle tree, which, for want of ſtuffing of the pannel, has rubbed and fridged the horſe's back. To prevent this you ſhould frequently, when riding, put your fingers before and behind your ſaddle, to feel whether it pinches the horſe, that you may remedy this diſorder in time, by getting your ſaddle chambered, or hollowed, to prevent its preſſing the

grieved

grieved part. But when through the negligence of the rider, the horſe happens to be cruſhed either before or behind the ſaddle, and that it ſwells much, you ſhould, (as in all other tumours occaſioned by bruiſes) endeavour to diſperſe it by applying warm greaſy poultices, as ſcalded bran and hogs lard, boiled turnips, or the like. Though if the bruiſe be ſlight, it may yield to cold applications, as whites of eggs, wheat flour, bole armoniac and vinegar laid thick upon a piece of leather, larger than the ſwelling, and renewed as it dries, but if the hurt be very ſlight, the humour may be diſperſed by waſhing the place with vinegar, or ſalt and water.

How to cure a Cruſh on the Navel-Gall.

A cruſh on the Navel-Gall frequently becomes what is termed an encyſted tumour, the matter that forms it is contained in a ſtrong ſkin or back; and this kind of ſwelling frequently remains for years after the hurt is received, unleſs they are carefully cut out by the farrier. The method of cure is to make a long inciſion, and to cut out the bag of matter, ſkin and all, and then to heal the wound with the following ointment.

The Common Wound Ointment.

Take common turpentine, half a pound; honey, one pound and a half; Burgundy pitch, twelve ounces; and hog's lard, half a pound; melt theſe together; and when it has been taken a while from the fire, ſtir in an ounce of French verd greaſe in fine powder, and keep ſtirring till it is as thick as honey, or till the powder cannot ſink to the bottom.

Of ſwelled Legs.

Swelled legs in horſes is one of their moſt common grievances, and it muſt be acknowledged that ſome are by far the more apt to ſwell in the legs than others; but when the horſe's legs ſwell and will not yield to good keeping, clean dreſſing, &c. without the help of medicines, the caſe is bad, but the following purge may be of ſervice.

Take one ounce of common aloes, half an ounce of diapente, three drams of hierae picrae, one dram of diagridium. 100

drops

drops of oil of aniſeed, and as much treacle as will make it into a ſtiff ball, to be rolled in liquorice powder or flower of brimſtone, and give the horſe in the common way, working it off with warm water and oatmeal, when the medicine begins to operate.

The above doſe, with reſpect to quantity of the aloes and diagridium, may be enlarged or diminiſhed according to the horſe's age and ſtrength; but it is not ſafe to increaſe the diagridium above the quantity of two drams; but a horſe that is lean and weak ſhould only be once or twice purged with the following preparation, and afterwards he ſhould take ſtrengthening medicines to reſtore his fibres to the natural tone and elaſticity.

Take of ſuccotrine aloes, one ounce and a half; extract of caſſia, one ounce; of ſenega in powder, three drams; cinnamon, cloves, nutmeg, and galengal root, powdered, of each two drams; mix, and with as much ſyrup of roſes reſolutive as is neceſſary, beat the whole into a ſtiff maſs, to be formed into two balls, which are to be given the horſe in the morning, waſhing them down with a little warm ale, keeping him from his meat at leaſt half a day.

If your horſe be ſtrong and full of fleſh, and really requires purging, he may in ſuch caſe bear the common aloes; but it is a neceſſary caution, that when the firſt does not purge, a ſecond ſhould not be immediately given; for by this management many horſes have loſt their lives; and it is a general rule, always to keep under the common doſe of any medicine, till we are thoroughly acquainted with the temperament and conſtitution of the creature we have to deal with.

Of the Scratches.

The ſcratches are a painful diſtemper, and in many reſpects are agreeable to what is termed kibed heels in human bodies and this generally proceeds from the careleſsneſs and naſtineſ of the groom; ſo that the greaſe is moſtly occaſioned by his negligence, in ſuffering the ſcratches to grow too great a height. Yet, according to Dr. Bracken, the ſcratches differ from the greaſe, in that the firſt requires reſt, a large ſtall, and proper ointment, whereas the greaſe (without the ſcratches)

is better after moderate riding. Experience informs us, that motion prevents the closing of all kinds of wounds; and it is equally certain that an horizontal posture of the body or limb wounded, is greatly preferable to a depending one; for these reasons, a sore on the back part of the fetlock, a part where the grease and scratches happen, requires care and patience. For this reason, if a horse who has the grease or scratches, or wounds, or swelling in the legs, will not lie down, he must either be forced to it, or covered with a cloth, and turned out in the day; for when a horse is turned out from a warm stable into a field, the coolness of the air causes such a contraction of the fibres and the muscular parts as puts a stop to the influx of the humours, by which means an inflammation and stagnation of the blood and juices are prevented; but before he is turned out, his heels ought to be well washed with warm water, and anointed with the following ointment.

An Ointment for the Scratches.

Take of white ointment, two ounces; Flanders oil of bays and quicksilver, each half an ounce; melt the white ointment a little, then stir it in the oil of bays, and then stir in the quicksilver, and keep stirring till it be so cold that the last ingredient cannot sink to the bottom.

N. B. Before this ointment is applied, the hair should be clipped away from the sores, the legs washed perfectly clean with pretty warm water, and the part well dried.

Dr. Bracken asserts, that inward medicines are not absolutely necessary in the cure of the scratches or grease, and assures us, that he durst undertake to cure these disorders sooner by turning out, good feeding, clean dressing, and letting the horse have a double stall in which he may lie at his ease, than by any other method whatsoever.

Of the Gravel in the Hoof.

If a smith drives a nail into the quick, it naturally becomes festered and inflamed, and the sand or gravel in the roads working up the nail hole, render him perfectly lame; and it is a general rule, that whenever any foreign matter happens to be lodged in any part of the animal machine, it should be taken

taken out as ſoon and as carefully as poſſible. The greateſt care ſhould be taken not to cut, pare or ſcrape the hoof more than is neceſſary, it being ſufficient to cut away what is black and diſcoloured, and then to dreſs the wound with the following balſam.

Vervain's famous Balſam for curing Wounds or Pricks.

Take balſam of Peru, half an ounce; ſtorax, three drams; ſuccotrine aloes, three drams; choice myrrh, ſix drams; powder them; and after putting them into a wide-mouth'd pint gooſeberry bottle, pour upon them one pint of rectify'd ſpirit of wine, and corking it looſely, ſet the bottle in ſand in an iron pot over a middling fire, keeping the ſpirit pretty warm for 24 hours; after which you may keep it cloſe ſtopped, and decant it off clear as you want it.

The method of applying this excellent compoſition, is to dip into it a piece of lint or tow, and then faſten it to the part, cleared of the gravel, &c. and renew it as it grows dry. But if this cannot be eaſily procured, the part may be dreſſed with the following ointment.

An Ointment for a gravelled Horſe.

Take of turpentine, two ounces; roſin and Burgundy pitch, of each half an ounce; bees wax, an ounce and a half; freſh butter, four ounces; French verdigreaſe finely powdered, half an ounce; clarify the butter, and after melting the hardeſt ſubſtances firſt, ſift in the other, and laſt of all the powdered verdigreaſe; and ſtir the whole about till it is almoſt cold, otherwiſe the ointment will be more ſharp at the bottom than at the top.

Of a Clap in the Back Sinews.

A clap, or more properly a ſtrain in the back ſinew, is frequently occaſioned by a horſe getting his foot into a hole in the road, when having a heavy load on his back, he often catches himſelf ſo haſtily upon ſtumbling, that he ſtrains the back ſinew or tendon behind his fore-leg. This diſorder is frequently miſtaken by the farriers for a ſhoulder-ſlip: but if the ſhoulder, he will drag his toe as he walks.

The cure of the ſtrain in the back ſinew is beſt accompliſhed by cooling applications, and will be much ſooner effected if your horſe will lie down and eaſe his leg. When the diſorder is ſlight, this alone will be ſufficient.

A Cure for a Clap or Strain in the Back Sinew.

Take four ounces of bole armoniac; and ten whites of eggs; ſtir theſe well, and add thereto as much ſtrong red or white wine vinegar as will reduce it to the conſiſtence of a pretty ſtiff poultice; and then after the leg has been well bathed and waſhed with warm water, and wiped dry with an eaſy hand, ſpread the preparation on thin leather all along the ſinew and part affected. This muſt be repeated as it dries.

Sir William Parſon's Receipt for the Cure of a Strain either of the Back Sinew, or the Shoulder.

Take common Barbadoes aloes, diſſolved in as much hot water as will make it of the conſiſtence of a plaiſter; when ſpread on a piece of thin leather, apply it to the part affected, and bind it eaſy on.

A proper Receipt for a Shoulder-Slip.

Take oil of turpentine, two ounces; oil of ſwallows and petrolium, of each half an ounce; mix theſe together, and having heated the ſhoulder and opened the pores of the ſkin, by holding a flat iron pretty hot, at about a ſpan diſtance, let it be well rubbed in.

Strains frequently happen on a journey, without any ſenſible heat or ſwelling, ſo that the part affected is frequently miſtaken by the farriers; but in all caſes of ſtrains it is abſolutely neceſſary to ſuffer the horſe either to reſt entirely, or to make ſmall and eaſy ſtages; for where accidents of this kind happen, nothing can be worſe than motion. The common practice of rowelling for ſtrains, according to Dr. Bracken, is no real ſervice; ſince though the lameneſs goes off, after rowelling, it is not the number of rowels, but the reſt of buſineſs and the length of time that perform the cure.

Of

Of Strains in the Fillets.

When a horſe has a ſtrain in the fillets, it may be known by his dragging his hinder feet after him, his hitting his toes on the ground, and his wriggling as if he would fall. The age of the horſe and the violence of the ſtrain, will render the cure longer in performing.

A Receipt for a Strain in the Fillets.

Melt ſome pitch, roſin, and turpentine together, and pour it all over the fillets pretty warm, and then clap over it a parcel of tow.

For Strains in the Fetlock.

Take the lees of wine, either red or white, or wine vinegar, to the quantity of about half a pint, and add thereto one pound of common bole armoniac in powder; to theſe put the white of ſix eggs; beat all well together, and apply it thick in the manner of a poultice, and renew it as it dries. If the powder be too much or too little for the lees, it may be altered ſo as to make it of the conſiſtency of thick honey.

Of Windgalls.

The cure of windgalls chiefly conſiſts in cooling the parts, and ſuffering the horſe to lie idle, rather at graſs than in the houſe. The above charge for ſtrains in the fetlock may be of great ſervice. Or, the fetlock joints may be rubbed now and then with tar.

Of Colds.

Colds generally proceed from giving cold water to horſes when hot, or in letting them cool too ſuddenly; and many horſes have become phthiſicky and even broken-winded by by being rid, when in a ſweat, belly deep in cold water. Colds generally affect thoſe parts of the body which are moſt ſuſceptible of impreſſion, as the brain, lungs, and guts of animals; for when that matter which ought to be perſpired, is

retained

retained in the blood, by the closing of the pores of the skin, nature endeavours to throw off what is hurtful, by other outlets, such as the nose, mouth, fundament, urine, &c. and therefore, it is the business of the physician and the farrier to assist nature in promoting some of these discharges. And therefore when cold is violent, as an over great fulness is brought on from the perspirable matter lodged in the veins being obstructed, bleeding must be highly proper.

But there is nothing better for a horse that has got a cold, than the following cordial ball.

A Cordial Ball for Colds, proper to prevent or cure most Diseases in Horses, when there are no Symptoms of a Fever.

Take aniseed and carraway seed, finely powdered, of each one ounce; greater cardamum seed, half an ounce; flower of brimstone two ounces; turmerick, in fine powder, one ounce; saffron, two drams; sugar candy, four ounces; Spanish liquorice dissolved in hyssop-water, two ounces; oil of aniseed, half an ounce; liquorice powder one ounce and an half; wheat flour, as much as is sufficient to make all into a stiff paste; and when the whole has been well beaten in a mortar, it may be [illegible]ed up in a bladder and kept for use.

This ball, when used for a cold, must be dissolved in stale beer, milk warm, and about one ounce for a dose, instead of dissolving it, it may be put between his grinders, when you should let him chew upon it for an hour or two without eating hay or grass, and afterwards give him oatmeal and water lukewarm, stirring them gently about, both before and after watering.

If a horse seems griped in the guts from the same cause, let him have the following warm drink given him.

A Cordial Drink for Cold.

Take two ounces of the above ball, half an ounce of grains of paradise, in powder, and a quarter of an ounce of long pepper, with a large nutmeg grated, and mix all up with a quart of strong mellow ale, and give it to the horse in an horn, and then keep him tied up from food for two hours; but first he

he muſt be rid about a little on a full trot to ſhake his guts, and let looſe the impriſoned wind.

If the horſe is bound in his belly, about twelve hours after his taking the above cordial drink, you may give him the following clyſter.

A Clyſter for griping in the Guts.

Take mallow leaves and pellitory of the wall, (either green or dry) of each three handfuls; carraway ſeeds bruiſed, and aniſeeds, of each one ounce; ground ginger, half an ounce; the electuary called carycoſtinum, one ounce; boil the herbs and ſeeds well in two quarts of water, to three pints, then add the ginger, and the electuary, and put a quarter of a pound of freſh butter and one ounce of Epſom ſalt to the whole.

In caſe the guts are actuated with painful twitches and convulſive contractions, which make the horſe tumble about and ſtrike his feet againſt his belly, to the above clyſter may be added, half an ounce of philonum romanum.

Theſe remedies, together with care and patience, warm maſhes of malt, bran, and the like, will reſtore your horſe to health; but obſerve that he ought to have a wide ſtall, clean, and warm bedding.

Another excellent Receipt for the Cure of the Gripes.

Take twenty grains of London laudanum, diſſolve it in an ounce of brandy, then mix it with a pint of white wine, and add two ounces of diaſcordium; give it your horſe in a horn milk warm, and clothe him well. Let him reſt twenty-four hours after it, and drink plentifully of warm water and oatmeal, for he will be very thirſty the day after he has taken it.

Of Scouring or immoderate Purging.

Scouring or Purging on the road may be remedied by keeping the horſe to dry food, and leſs water than common; but this muſt be continued for a long time, with proper exerciſe, and a full allowance of oats and ſplit beans.

A horſe

A horſe of a lax conſtitution being taken from graſs to go a long journey, ſhould have the following preventive phyſic given him in his provender.

A Powder againſt Scouring or over Purging.

Take galls powdered (ſuch as we make ink with) two ounces, and of the powders of Japan earth and Lemnian earth, of each an ounce; mix and keep them in a bladder for uſe. The method of uſing it is to ſprinkle a little water upon the horſe's oats, and after rubbing them a while, to throw amongſt them half a ſpoonful of the powder.

If a horſe from foul feeding, catching cold, &c. purges upon the road, give him the following drink.

A Drink for a Horſe which ſcours from foul feeding.

Take one ounce of Venice treacle, boil it in a quart of ſtale beer till one third is evaporated, then add half an ounce of true Armenian bole in powder, and two ounces of common treacle to make it palatable; then give it the horſe in one doſe, and repeat it as neceſſity requires. If it be too weak to overcome the diſtemper, an hundred drops of liquid laudanum, and half a gill of ſtrong cinnamon water may be added; but in the laſt caſe he ſhould travel for ſome days.

Of a Cold in the Head.

When the brain is much loaded from the cold, take ſome of the following powder, and blow it through a piece of elder wood, pretty high up the noſtrils.

A Powder to make a Horſe's Noſe run in a Cold.

Take aſſarabacca dried, half an ounce; and of the powder of margerum one ounce; mix them together, and blow up the horſe's noſtrils two or three times a day, keeping his head and throat well covered, to prevent his getting more cold.

As his eyes are ſubject to various accidents on the road, particularly from the cut of a whip, a remedy of theſe diſorders cannot be unneceſſary. All wounds on the eye, if curable, will yield to the following application. A

A Receipt for curing Wounds on the Eye.

Take half an ounce of the greyiſh coloured lapis calaminaris finely powdered; of lapis tutiæ, two drams; of white vitriol burnt, one dram and a half; and about one ſcruple of French verdigreaſe; reduce theſe into a fine powder, and mix them well with about one ounce of freſh butter. When you make uſe of it, warm this ointment, dip a feather in it, and apply it morning and evening to the ſore. This muſt be continued for a good ſpace of time, becauſe wounds on the eyes are long and healing.

Or, when the horſe's eye happens to be hurt with a laſh of a whip or twig, you may blow in the following powder night and morning.

For a Hurt on the Eye.

Take of lapis calaminaris and lapis tutiæ, finely powdered, of each two drams; white vitriol and allum firſt powdered and then burnt together in a very clean red-hot fire-ſhovel, each half an ounce; mix all theſe together, and keep the whole in a bottle well corked; but obſerve that the bottle ought not only to be dry, but well warmed before you put it in.

If the eye be rheumy and bloodſhot, and the horſe has ſymptoms of pain in the head, bleeding will be neceſſary, and the following eye-water may be applied.

An excellent Eye-water.

Take four ounces of roſe water, and about three drams of the aforeſaid eye-powder mixed and diſſolved in it; ſquirt it into the eyes by the help of a ſyringe.

The water is beſt for rheumy bloodſhot eyes, where there is no ſpeck or film; and the powder where there is; obſerve the eye always looks worſe while the powders are uſing.

A Cure for a ſwelled Neck.

When a horſe's neck happens to ſwell by getting cold after bleeding, the following ſoftening pouſtice is the beſt remedy that can be applied.

Take

Take mallow and marſh-mallow leaves picked clean from ſtalks, of each ten handfuls; white lilly roots, half a pound; lint ſeed and fenugreek ſeed, of each two ounces; ointment of marſh-mallows, ſix ounces; and of hog's lard, half a pound. The leaves and roots ſhould be boiled well, and the water preſſed from them; then beat them to a pulp in a mortar, and let it ſtand till you have made a jelly of the ſeeds by bruiſing them well, and boiling them in a quart of water to a pint; this you muſt beat up with the former; and laſtly add the ointment and hog's lard, and when all are mixed thoroughly, it may be kept in a large bladder for uſe.

This is an excellent poultice for all hard ſwellings, either in man or beaſt: when applied, it ſhould be warmed well before the fire, ſpread thick over a piece of flannel, applied all over the tumour, and renewed as it becomes dry.

If a ſwelling of a horſe's neck, after bleeding, will not diſperſe, it ſhould be open when ſufficiently ſoft, and dreſſed with a good deal of oatmeal in it; and if he will eat a little hay, it ſhould be ſweet, ſoft, meadow hay, ſprinkled with cold water, or in ſummer cut graſs.

A Receipt to cure Worms.

The beſt remedy for the cure of worms is æthiops mineral, which ought to be thus prepared. Take four ounces of flower of brimſtone, and the like quantity of quickſilver; melt the brimſtone ſlowly in an iron ladle, and ſtir in the quickſilver over a gentle heat, till it is incorporated; then take it off, and ſtir it till almoſt cold; afterwards ſtir them well together in an iron or ſtone (not a braſs) mortar, till they become a black powder. Give the horſe as much as will lie on a half-crown piece twice a day in his corn, which muſt be firſt wetted to make the powder ſtick to it. This medicine muſt be continued a week, or longer.

A Remedy for the Gravel.

If your horſe has the gravel in the kidneys, ureters, or bladder, he will ſeem weak in the fillets, ſtool often, and with difficulty, and but a little at a time.

Take

Take an ounce and an half of the cordial ball above-mentioned; ſoap of tartar one dram; of Matthew's pill, one dram; or if the horſe be luſty and ſtrong, a dram and a half; beat thoſe well together, and with liquriſh powder make it up into balls, and mixing it with a little ſtale beer and ſome treacle, give it for a doſe in a horn.

This medicine, if the ſymptoms are violent, may be repeated once in twenty-four hours; and every two or three hours water lukewarm ſhould be offered him.

BOOK V.

Methods to prevent and deſtroy all Kinds of Vermin.

To prevent Bugs from breeding.

BUGS are not only become troubleſome at London, but are got into the country; and whereas people think they are bred of hog's hair, wood, wool, cloth and fur, theſe things breed only lice, moths, and worms, but bugs proceed from old feather beds, whereon have long laid ſick and ſweaty people, which produces purified ſmells and vapours; ſo does theſe preſs beds that have not the advantage of the pure air, as alſo cloſe rooms, where the air wants free egreſs and regreſs; from theſe cauſes bugs proceed; and alſo all conſumptions, weakneſs of the back, and ſuch like diſeaſes that people little think of. And if you obſerve, you ſhall never find theſe creatures in ſhops, or where no beds are or have been put. One way therefore to prevent them, is to waſh your rooms, and keep them very clean, and keep your windows open in the day time, that the air may come in, and the ſun ſuck up the moiſture contracted in the night time: This is a great preſervative againſt all vermin, as alſo of your health; and

would uſe ſtraw or chaff beds, or quilts to lie on, a little time would make them as pleaſant as down beds; but, however, let your feather beds be forced once in two or three years. and that will be means to preſerve you from bugs and ſickneſs. Straw and chaff-beds you may change with little charge as oft as you pleaſe. Now to deſtroy bugs already got into your houſes, I ſhall give you the beſt receipts, which are as follow.

How to deſtroy Houſe Bugs.

Take the ſheet of paper which is next to the roll-tobacco: two grains of the oil of nitre, and as much ſweet oil as will ſpread over the ſheet of tobacco paper, with a little powdered ſugar, lay this in any part of the room or place where they are, and it will deſtroy them. This was communicated by a gentleman of Leghorn who never knew it to fail.

Take gun powder beat ſmall, and lay ſome about the creviſes of your bedſtead, and fire it with a match about your bedſtead, and keep the ſmoke in; this do for an hour or more, and let the room be kept cloſe for ſome hours after. Or take the ſprigs of fern, and lay upon the boards, kills them.

Take a handful of wormwood and white hellebore, boil them in urine till it is half waſted, and waſh the joints of your bedſteads with it.

Take a quantity of unſlacked lime, put it into a quart of water, and let it ſtand three or four days, then pour off the water, and add a quantity of common ſalt, the ſtronger both of lime and ſalt the better: waſh the ſides of the wall and bedſtead with this liquor two or three times a week, it kills bugs and fleas.

Burn brimſtone under the joints of the bedſtead and creviſes where they lie, and they'll come out preſently, that you may kill them: do this two or three times a week, and keep the room cloſe.

Take a convenient quantity of good tar, mix the juice of wild cucumbers with it, and ſtir it five times a day for two days; then anoint your bedſtead with it, and it kills them.

Take a handful of rue and wormwood, and mix them with common oil, and as much water as will cover the rue and wormwood; let it boil till the water is all boiled away, then ſtrain out the oil from the herbs, and mingle with ſheep's ſuet

as much as the oil; then anoint the bedſtead with it, and it is an infallible remedy.

Take ſoap ſuds that lies after your waſhing, and boil onions in it; then waſh your room and bedſtead with it.

Take ſtrong vinegar, and mix ſalt with it; then ſprinkle your room. This prevents bugs and fleas, and is very wholeſome in houſes or at ſea, ſo is rue, wormwood and roſemary wholeſome to ſmell to, or vinegar alone.

Take three ounces of guinea pepper; burn it on a chaſing-diſh of coals in your chamber; ſhut the doors and windows, but take great care to go out yourſelf, or it will ſerve you as the bugs and fleas. This do twice a month in hot weather, and it will kill all ſorts of vermin in the bed.

Hang a bear's ſkin in the room, and they will be gone. Or get a trap about a yard and a half long, or more, if your bed is broad, and about half a yard in depth; put it at the head of your bed, to the bottom of your pillow, and in the morning they will creep into it; take it into your yard, knock it, and they will drop out, ſo you may kill them. They are made of wickers, by baſket-makers.

To conclude; let your rooms be kept clean, ſet open your windows when you riſe, and lay your bed-cloaths open four or five hours, and it is the only way to prevent both bugs and lice.

LICE.

TAKE a little ratſbane, and boil it in ſpring water; then when it is pretty well boiled, keep the water for uſe; rub a little of it about the ſcabby and louſy head, then put on a cap, and tie it on cloſe. Uſe this with care, for it is the ſtrongeſt poiſon imaginable; waſh your hands after it, and be very careful.

Take ſtaves-acre powdered, and mix it among the hair, then tie it with a cap, and it kills them. Or oil and ſtaves-acre.

Nits and Lice in the Head.

Take of bees-wax an ounce, three ounces of olive-oil, and three drams of ſtaves-acre; of theſe make a ſalve, and anoint; it kills both nits and lice.

Take red orpiment and ſalt-petre, each a dram, louſe-herb

two drams, and mix them together with oil and vinegar, ſo anoint the head.

Lice to kill on Ship-board, Bed and Body.

Take May butter or unſcalded cream an ounce, three penny-worth of quickſilver, warm them in a luted pot of loam, ſo ſtir them till they incorporate together, then take a ſmall linen cloth of three inches, ſteep it therein; then take a piece of ſilk, and ſew it into it, and hang it about the neck; oftentimes found certain by Dr. Thompſon.

To kill Lice on Trees.

Through drought many trees and buſhes become louſy, as ſweet-briar, gooſberries, &c. therefore frequently waſh them, or daſhing them with water may prove the beſt remedy.

For Crab Lice.

Waſh with the decoction of penny royal; ſome anoint with black ſoap. Or boil marjoram in water, and waſh with it; or the juice of ſtinking gladon.

For Lice in the Eyelids.

Rub your eyelids with ſalt water, or brimſtone and water, or with vinegar of ſquills, allom and aloes, and anoint the hair of the eyelids.

FLEAS TO KILL.

Take lavender and wormwood, and boil them in vinegar well, and ſprinkle your blankets with it; or ſavory laid in your chambers, kills them.

Take wormwood well dried, and put it in a bag with holes in it, ſo place it under your bed; or fleawort laid under or about your bed kills them; or take wormwood, nut leaves, lavender, eye-averon, and green coriander, put them under the bed or pillow, and the fleas will die.

Agrippa ſays, that goat's milk lye is an infallible remedy, being ſprinkled about the room.

Muſtard-ſeed boiled in water, and the room ſprinkled with it. Arſmart (the hot ſort) ſtrewed in a chamber, kills all the fleas; and put under the ſaddle of a tired horſe, will make him travel.

To kill Fleas and Wall-Lice.

Take the decoction of thiſtle or arſmart, or coloquintida, bramble or colewort-leaves, and ſprinkle about the houſe, drives them away. Or anoint a ſtick with the greaſe of a hedge-hog, and lay it in the room, and the fleas will gather and ſtick to it.

Take ſothernwood, rue, wormwood, ſavory, walnut leaves, lavender, and flea-ſeed; lay all theſe (or ſome of them) under the blankets; or elſe boil them in vinegar and ſea-onions, and with that beſprinkle the bed.

RATS or MICE.

The following Receipt was communicated by an ingenious Gentleman, who never knew it to fail

To deſtroy Norway Rats.

Taſte two ounces of glaſs, one ounce of cream of tartar, one grain of muſk, four grains of cinnamon, half an ounce of anniſeeds, all pounded, and one ounce of malt duſt, mix them with a gill of ſweet oil, and make it into paſte. Great care muſt be taken that no children or cattle get at it, for the taſting it will be attended with immediate death.

Rats or Mice.

Take ratſbane, powder it, and mix it with freſh butter, or make it into a paſte with barley, or wheat-meal and honey, and lay it on trenchers on boards where they come; they will eat it, and it makes them drink till they burſt. It is a ſtrong poiſon, therefore be very careful in uſing it, and waſh your hands after it. Or unſlacked lime and oatmeal mixt, and laid on boards where they come, kills them.

To take Rats, or Mice eſpecially

Take a board three feet ſquare, and lay a piece of ruſty fried bacon in the middle, then lay it pretty thick with bird-lime, leaving ſome alleys for them to come to it, and they will get among the bird-lime and ſtick, drawing and ſqueaking, that it will make you ſport. One ſaid, he had catched twelve in a night. In Staffordſhire they put bird-lime about their holes, and they running among it, it ſticks to their ſkins, that they will not leave ſcratching till they kill themſelves. Or, take coloquintida and oatmeal, make it into a paſte, and lay it where they come.

Rats and Mice to kill.

Black hellebore and the ſeeds of wild cucumber mixed with ſuch food as they eat, kills them. Or mix powdered hellebore with wheat or barley-meal only, made into ſtiff paſte with honey, and laid where they come, they eat it; it is preſent death, but great care muſt be taken, leſt any thing they eat ſhould be poiſoned.

Rats and Mice to frighten away.

Take a rat or monſe, and beat or cut him very ſore, then let him go, and he'll cry and make ſuch a noiſe, that it will frighten the reſt from your houſe.

Another.

Set a trap over-night, with a piece of ſtrong toaſted cheeſe, and you will be ſure to have one or more in the morning; then take a little aqua fortis, and ſprinkle them with it, and immediately let them run to their holes. By the heat of the aqua fortis they will make cry to ſuch an exceſs, that it will frighten the reſt away, and they will expire in their holes.

Rats

Rats and Mice to keep from Cheeſe.

Agrippa ſays, that hog's lard mixed with the brains of a weaſle, and laid in large pellets or quantities about the room, they will not come into that room.

To make Rats and Mice ſcabby.

Put oak-aſhes in their holes, and they running among them makes them ſcabby, and ſo kills them.

To drive away Rats and Mice.

Make a fume with ſmallage-ſeed, origanum, and nigella, all or any of them, and it drives them out of the houſes. Alſo lupins or green tamarinds burnt in the room drive them away.

That Rats and Mice may not eat Books.

Let the printers put infuſion of wormwood into their printing ink, and they will never eat the printed paper.

Rats and Mice

Chips of cork fried in ſuet, and laid where they come, kills them.

To kill Field Rats and Mice.

In the dog-days the fields are generally bare, then find out their holes or neſts, which are little and round like an augre-hole, and put hemlock-ſeed thereunto, or hellebore mixt with barley; they eat it greedily, ſo kills them.

That Mice may not deſtroy Seed Corn.

Steep your ſeed in bull's-gall, and they will not touch it. Or take green glaſs, powder it, and as much copperas

beat to powder; mix it with honey till it come to a paſte, and it will leave neither rats or mice in the fields, but kill them.

To kill Rats and Mice in Houſe or Field.

Stop their holes with roſe and laurel leaves: Some mingle wild cucumber, henbane-ſeed, bitter almonds, and black hellebore, beat together and made into paſte with barley meal and oil, and put into their holes in houſe or field, ſo they eat, and it kills them.

To preſerve Artichokes from Rats or Mice.

They are great lovers of artichokes, and will come to them in troops: To prevent this, wrap wool about their roots, and they'll be gone. Or hogs-dung, or fig-tree aſhes laid about them, will drive them away.

Mice and Rats to catch in the Field.

Place an earthen pot in the ground, half full of water, and cover it with a board with a hole in the middle of it, and then cover it with haum, ſtraw, or ſuch like rubbiſh, under which the mice will ſeek for ſhelter, creep into the hole and ſo drop into the water and be drowned.

To preſerve Corn from Rats and Mice.

Set four or ſix poſts in the ground, according as your grainery is deſigned for bignels; let them be two or three yards high, then make a floor of wood acroſs to ſupport your corn, and about the poſts put Dutch tiles, ſuch as you ſet in chimneys, and they keep ſmooth, that rats or mice cannot get up. If you erect a barn or grainary, erect ſides and a roof upon it; if only a ſtack, cover it with thatch. Some make their ſupporters of two ſtones, the lower about three feet high, and two feet wide at bottom, and one at top; over this they lay a ſtone about a yard ſquare; ſome make it of a round form,

which is beſt; let the corn you ſtack be bound in the ſheaves, that the ears may be turned inwards, which will preſerve it from pigeons, crows, and other fowl. If you ſuſpect rats or mice may be got in the grainary, greaſe a ſtick and thruſt it into it; they will gnaw the ſtick, and ſo diſcover it.

MOLES.

TAKE a head or two of garlick, onion, or leek, and put it into their holes, and they'll run out as if amazed, and ſo you may with a ſpear or dog take them.

To kill Moles.

Take the dregs of oil, or the juice of wild cucumbers, and pour it into their holes, and it kills them. Or, make ſtrong lye of copperas and water, and in the morning early make a hole in all the heaps with a broomſtick, and in the evening pour this water into the holes, it kills them.

But hellebore, white or black, and with wheat flour, the white of an egg, milk and ſweet wine or methlegin, make it into paſte, and put ſmall pellets as big as a ſmall nut into their holes, and they eat it with pleaſure, and it kills them.

Pliny ſays, take an earthen jug-pottle with a big belly and narrow neck, and put bees wax, roſin and brimſtone, and cedar-wood cut ſmall into it; ſet theſe on fire and ſtop all the mole-holes cloſe, but one, which being opened, put the neck of the pot into it, and the ſmoke will choke them.

To drive Moles away.

In places you would not dig nor break much, the fuming their holes with brimſtone, garlick, or other unſavoury things, drives them away, and if you put a dead mole into a common haunt, it will make them abſolutely forſake it.

To take Moles an incredible Way.

A mole-catcher and his boy, in ten days, in the ſpring-time

in the ground of 190 acres, took near three buſhels of old and young, and caſting up their neſts only, which are always built in a great heap as big again as the reſt, eaſily diſcerned; then would the old ones quickly come to look after their young, which they would ſnap up.

If you have a conveniency of bringing water over your ground, it will deſtroy them as far as it goes.

Another.

To take them in trenches ſpoils much ground; therefore take a mole-ſpear or ſtaff, where you ſee them caſt, go lightly, but not on the ſide betwixt them and the wind, leſt they perceive you; and at the firſt or ſecond putting up of the earth, ſtrik them with your ſtaff downright, and mark which way the earth falls moſt; if ſhe caſt toward you, ſtrike ſomewhat over, if ſhe caſt toward the left hand, ſtrike ſomewhat on the right hand, and ſo on the contrary to the caſting up o the plain ground, ſtrike down, and there let it remain; then take out the tongue in the ſtaff, and with the ſpattle or flat end, dig round about the grain to the end thereof, to ſee if you have k lled her; if you have miſſed her, leave open the hole, and ſtep aſide a little, and perhaps ſhe will come to ſtop the hole again, for they love but very little air, and then ſtrike again, but if you miſs her, pour into her two gallons of water, and that will make her come out for fear of drowning; mind them going out in a morning to feed, or coming home when fed, and you may take a great many.

To take Moles another Way.

In March or April the ground is ſoft, and they run ſhallow, and alſo after a rain, and by bank ſides, and in the rats ofca r ts, and when you ſee ſuch newly wrought, tread it down always ſoftly, and then at her accuſtomed hours, which is uſually at ſpring-time from about 6, 8, and 11 in the morning, and in the evening about 3 or 4, or 7, ſhe will ſtir up theeart h in the ſaid trenches, and ſo go from trench to trench,

trench, and then watch diligently and hearken, and you will either hear her or ſee her at work, moving the earth in the trench, then ſtop down the broad end of your ſtaff acroſs the hole behind her, and with your foot before her, ſo ſtop the way behind with your ſtaff, and before with your foot, and then take her up with your ſpattle.

Moles generally go abroad about ſun-riſing, or ſoon after; in dry hot weather moles ſeldom go abroad but in the morning, but in moiſt weather twice a day, forenoon and afternoon; and in frofty weather they work under trees and thick hedges and buſhes; in wet ſeaſons and winter they lie moſt in banks and hedges, under the roots of trees and hills, and come out every morning to go abroad (if it is dry) 2 or 300 yards from their holes, and after an hour or two feeding, return home; then obſerve where they have been, and there make trenches and chop the earth down with the ſpattle or broad end of the mole-ſtaff, which ſhe had before raiſed and paſſed through, and there tread it down with your foot in trenches lightly, and the longer the trenches are, the longer ſhe is in paſſing through them. Make trenches in the moſt convenient place in the ground; if you make them nigh their holes, 'tis beſt to make them going out or coming home. Make their trenches along by the hedge ſide or nigh banks and roots of trees, for that is beſt.

To make an Inſtrument to deſtroy Moles.

The beſt inſtrument to deſtroy them is made thus: Take a ſmall board of about three inches and a half broad, and five inches long, on the one ſide thereof, raiſe two ſmall, round hoops or arches, and at each end, like unto the two ends of a carrier's waggon, or a tilt boat, large enough that a mole may paſs through them; in the middle of the board, make a hole that a gooſe quill may paſs through, then is that part finiſhed; then have in readineſs a ſhort ſtick about two inches and a half long, about the bigneſs that the end thereof may juſt enter the hole in the middle of the board; alſo you muſt cut a haſle or other ſtick, about a yard or a yard and a half long, that being ſtuck in the ground may

ſpring

ſpring up like unto the ſpring they uſually ſet for fowls; then make a link of horſe hair very ſtrong, that will eaſily ſlip, and faſten it to the end of the ſtick that ſprings; alſo have in readineſs four ſmall hooked ſticks; then go to the farrow or paſſage of the mole, and after you have opened it, ſit in the little board with the bended hoops downwards, that the mole, when ſhe paſſes that way, may go directly through the two ſemicircle hoops. Before you fix the board down, put a hair ſpring through the hole in the middle of the board, and place it round, that it may anſwer to the two end hoops, and with the ſmall ſticks, and gently put in the hole to ſtop the knot of the hair-ſprings; place it in the earth in the paſſage, and by thruſting in the four hooked ſticks, faſten it in the earth, and then when the mole paſſes either one way or the other, by diſplacing or removing the ſmall ſtick that hangs perpendicularly downwards, the knot paſſes through the hole, and the ſpring takes the mole about the neck. Tho' the deſcription ſeems tedious, yet this is very plain, and eaſily performed; theſe vermin being ſo very prejudicial, even worſe to ground than ſwine.

WEASLES.

Take ſal ammoniac, and beat it, and with wheat flour and honey make it into a paſte with the white of an egg, and lay it in pellets where they come, and eat it, and it kills them.

Put bells about his neck, and let him run about your houſe, and he'll frighten away all the mice. 'Tis their nature to deſtroy mice, therefore ſome people love to have them about their houſes.

Lay rue about the hens that lay, and they'll not come near 'em.

The ſmell of a burnt cat frights them away; as all inſects will be frighted away with their own kinds being burnt.

CATERPILLARS.

Caterpillars deſtroy the leaves of trees, and devour cabbages and

and other tillage, and are generally the effects of great drougths. To prevent their numerous increaſe on trees, gather them off in winter, taking the prickets away that cleave to the branches, and burn them.

Or, anoint the bottom round about with tar, then get many piſmires and put them in a bag, hang them ſo that they may touch the body of the tree; the piſmires cannot get down for tar, ſo for want of food will devour the caterpillars.

When they are upon coleworts or cabbages, take ſome ſalt water and ſprinkle them with it, and it will kill them.

Caterpillars of many Sorts, the Wolf, the Black Fly, the Calendar-Worm, &c.

The moſt hurtful is the wolf and calendar-worm, that lurk in the heart of flower buds, ſhutting them up that they cannot open, which they conſume; the trees that blow early, look as if ſinged by lightning; thoſe that blow late are not ſubject to this evil.

But for this diſeaſe that has been accounted incurable, and all other enemies. Take three ounces of wormwood, one ounce of aſſa fœtida, ſteep and break them, and boil with four pails of water in the air, becauſe they are ſtinking ſmells, and when boiled, ſtrain out the ingredients through a linen cloth, and uſe it when cold at pleaſure, before the bud be opened, and they will do no harm to the tree. You may alſo add other ingredients, as tobacco ſtalks, wild vines, coloquintida, or the like, and expect very good iſſue.

Great Buns to deſtroy, that hurt green Plants and Roſe-Trees.

To kill green bugs in gardens, ſprinkle the places where they fix with ſtrong vinegar, mixed with the juice of henbane; or, ſome water the plants haunted by them with the cold decoction of muſtard and laurel-ſeed in water; ſome waſh them with

with their fingers, which is a good way; or fleabane boiled in water, and ſprinkled, kills them.

An univerſal Remedy againſt all Animals offenſive to Flowers.

Democritus ſays, put 8 or 9 crabs in an earthen pot with water, and let them ſtand eight days in the open air, then take of this water, and water your plants in their infancy; repeat the ſame once in eight days, and you will find it effectual againſt all ſorts of vermin.

Frogs to kill.

Theſe vermin are beſt deſtroyed in February, in the ditches where they ſpawn, by deſtroying both frogs and ſpawn.

To gather Frogs and kill them.

Take a ſheep, ox or goat's gall, and bruiſe it by the water ſide, and the frogs will gather to it.

Snakes and Adders to drive from the Garden.

Wormwood planted in divers places, they will not come near it.

The roots of centaury laid about your ground, will make them depart. Or, lay deer ſuet about the place, and they'll be gone.

For the Bite or Sting of a Snake or Adder.

Take the juice of aſh-tree leaves ſqueezed into good white wine, or beef, and drink it, and waſh with it, then cover the place ſtung with aſh tree leaves, and it cures you, ſays Agrippa.

Piſmires, Flies, Earwigs, and Spiders, that hurt Orange Trees, Carnations, &c.

Theſe are very troubleſome vermin in a garden, eſpecially where

where carnations are preſerved; for they are ſo fond of theſe flowers, that if care is not taken to prevent them, they will entirely deſtroy them, by eating off the ſweet part at the bottom of the leaves.

To prevent which, moſt people have ſtands erected, which have a baſon of earth or lead round about each ſupporter, which is conſtantly kept filled with water. Others hang the hollow claws of crabs, lobſters, &c. upon ſticks in divers parts of the garden, into which theſe vermin get; and by often ſearching them, you will deſtroy them without much trouble; which will be of great ſervice to your wall-fruit, for theſe are great deſtroyers thereof. Miller's Gardener's Dictionary.

Piſmires, Earwigs, and other Vermin that hurt Gardens.

In gardens are July flowers, which are ſubject to harm, both by rain and the ſun, and much watering, and from earwigs and piſmires. The rain ſpots them; the ſun withers them, by drying the ground too much; ſtrong water ſpoils them, eſpecially at the laſt of their blowing. Piſmires gnaw the flowers, and make holes in the leaves, earwigs devour the flowers, at leaſt the leaves, that they fall out of the ſhell. To preſerve them, let the ſun be upon them but one hour in the day, and they will laſt long.

To prevent Earwigs and Piſmires from Flowers.

Take glue boiled in linſeed oil, and lay this round your tub four inches broad, and if they go to climb up, they will ſtick in it, but if any ſhould get up, lay on the top of July flower-ſticks, paper caps, lobſters claws, with ſome wool or tow in them, and in the morning you will find much vermin in them.

To poiſon Piſmires.

Make a box of cards or paſteboard, prick it full of holes with a bodkin, and put them in powder of arſenick and honey mingled

mingled together: hang theſe boxes on the trees, and it will kill them. Make not the holes too large, leſt bees get in and be poinſoned alſo.

Earth and Field Mice, Snails, and other Vermin that hurt Tulips.

To preſerve tulips from vermin, cover them with wooden frames four inches high, and do them over ſo cloſe with iron wires, that none of theſe vermin can get through to hurt them.

Snails to deſtroy.

Snails are great enemies to wall-fruit, and in a dewy morning you may eaſily find where they moſt delight to breed; but the beſt way is to find out their haunts in a hard winter, and to rid yourſelves of them. They lie much in holes of walls, under thorns, behind old trees, or cloſe hedges.

Alſo obſerve not to pluck that fruit they have begun with, but let it alone, for they will end that before they begin another.

Set tiles, bricks, or boards hollow againſt the walls, pales, &c. and they will creep under them for ſhelter: about Michaelmas they get to ſuch places for ſecurity the whole winter, except you prevent it by them deſtroying them in December, which is the eaſieſt, beſt and ſureſt way to deſtroy them.

Snails, the Gardener's Way.

Beſides what is wrote above, they ſeek them by break of day, or after rain, then they come out of the earth to feed, and are eaſily killed. You ought to keep out of gardens dogs and cats.

That Flies may not trouble Cattle.

Boil bay-berries in oil, and anoint them with it, and they will

will never ſit on cattle; or wet the hair of horſes with the juice of the leaves of gourd at Midſummer, and they will not moleſt them. If cattle are anointed with the juice of arſmart, flies will not come near them, though it is the heat of ſummer.

To prevent Moths eating Cloth.

Taken beaten pepper, lay it among your cloaths, airing them well firſt, it will prevent them.

Take the branches of bay-tree and lay among cloth and woollen, it preſerves them from moths, worms or corruption, ſo does moiſt hemp.

Laying wormwood among cloaths prevents moths from eating them.

Pieces of Ruſſia leather put in boxes, prevents moths and all other vermin.

Moths to deſtroy.

About Auguſt they appear, and that moſtly in the night, and if you ſet a candle in an apple-tree lighted in the night, they will fly about it and burn themſelves, and you'll find abundance of them dead in the morning.

Waſps ſtinging.

Apply a copper halfpenny, and boil it for a little ſpace, and it will eat the pain and prevent ſwelling.

Worms to deſtroy.

Water wherein the leaves and ſeeds of hemp are ſodden, ſprinkled on the earth, brings them out.

Sea water, ſprinkled on the ground, kills them. Or ſalt and water made into brine, and ſprinkled on the ground. Some ſay, ſoot ſtrewed on the ground, kills them. Others commend chalk and lime ſtrewed on the ground.

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Worms in Apple-trees to deſtroy.

Lay a ſea onion about the trees, to preſerve them from worms; if they come naturally, bull's gall or hog's dung mingled with man's urine, and poured to the roots, deſtroys them; but if they are hard to deſtroy, the bark muſt be digged into with a braſs pin or ſuch like tool, and tended till the point takes upon the worms, and drives them from the place; but where there is a place ulcerated, ſtop it with ox-dung; an apple-tree plant. the root being anointed with bull's gall, they and their fruit will be free from worms. Mizaldus.

Worms to prevent eating Cheſts of Drawers, or Woods.

Rub them with linſeed oil; or rub them with wormwood, rue, or other bitter herbs, preſerves them, and all wooden houſehold ſtuff that is rubbed with the lees of linſeed oil, and poliſh'd, will look pleaſant.

POLECATS.

If you can conveniently, have a channel about your pigeon-houſe, that will preſerve them and all other fowl, for no beaſt of prey will take the water.

Some make a dead fall to take them, which is made of a ſquare piece of wood, weighing 40 or 50 pound; they bore a hole in the middle of the upper ſide, and ſet a crooked hook faſt in it; alſo they ſet four forked ſtakes faſt in the ground, and there lay two ſticks acroſs, on which ſticks lay a long ſtaff to hold the dead fall up to the crook, and under this crook they put a ſhort ſtick, and faſten a line to it; this line muſt reach down to the bridge below; and this bridge muſt make about 5 or 6 inches broad. Then ſet on both ſides of this fall, boards or pales, or hedge with cloſe rods, and make it ten or twelve inches high; let the paſſage be no wider than the fall is broad.

BADGERS.

BADGERS.

Badgers are pernicious creatures, and deſtroy young lambs, pigs and poultry.

Some take them in ſteel trap, or a ſpring, as foxes are taken.

Some make a pit-fall five feet deep, and four long, making it narrow at the top and bottom, and wider in the middle; then cover it with ſome ſmall ſticks and leaves, ſo that he may fall in when he comes to it; ſometimes a fox is taken thus.

Others hunt the badger to his hole in a moon-light night, and dig him out.

Foxes to deſtroy.

Foxes are great deſtroyers of lambs, poultry, geeſe, &c. To deſtroy them, take a ſheep's paunch, and tie it to a long ſtick, then rub your ſhoes well upon it, that he may ſcent your ſweaty feet; draw this paunch after you as a trail, a mile or more, and bring it near ſome thick headed tree, leave your paunch, and get into the tree with a gun, and as it begins to be dark, you will ſee him come after the ſcent of the trail where you may ſhoot him; draw the trail if you can to the windward of the tree.

To take a Fox in a Steel Trap.

The beſt way is, to ſet your trap in the plain part of a large field, out of the way of all paths, yet not near a hedge or ſhelter; then open the trap, ſet it on the ground, and cut out juſt the form thereof in a turf, and take out ſo much earth as to make room to ſtay it, then cover it again very neatly with the turf you cut out; and as the joint of the turf will not cloſe exactly, get ſome mould of a new caſt up mole-hill, and put it cloſe round the turf, ſticking ſome graſs in it as it there grew; make it curious and neat, that might

even

even deceive yourſelf; ten or twelve yards from the trap, three ſeveral ways, ſcatter ſome on the mole-hill mould very thin on a place 15 or 16 inches ſquare, then on theſe places, and where the trap is placed, lay three or four ſmall bits of cheeſe, and with a ſheep's paunch draw a trail a mile or two long to each of theſe three places, and from thence to the trap, that the fox may come to one of theſe places firſt, for then he'll approach the trap more boldly; and thus you will never fail of him; be ſure let your trap be ſet looſe, that he may draw it to ſome hedge or covert, or he'll bite off his leg and be gone.

A Spring-trap for a Fox or Badger.

Bend down a ſtick in the wood, or ſet a pole in the ground where he uſes to come, much like that ſet up for a woodcock, which hangs them up. To explain it better, tie a ſtring to ſome pole ſet faſt in the ground, and to this ſtring make faſt a ſmall ſhort ſtick, made thin on the upper ſide, with a notch at the lower end of it; then ſet another ſtick faſt in the ground, with a nitch under it; then bend down the pole, and let both the nicks or notches join as ſlightly as may be; then open the nooſe of the ſtring, and place it in the path or walk; and if you lay pieces of cheeſe, fleſh, or ſuch like, it will entice him that way.

Fox to take.

Anoint the ſoals of your ſhoes with ſwine's fat a little broiled, and coming from the wood, drop here and there a piece of roaſted ſwine's liver dipt in honey, drawing after you a dead cat, and he'll follow you, ſo that you may ſhoot him.

A Hook to take the Fox, tied to a Tree or Gibbet.

This Hook is made of large wire, and turns on a ſwivel like the collar of a greyhound; it is frequently uſed in catch

ing

ing wolves, but oftener for the fox. They hang it from the ground ſo high, that he muſt leap to catch it; and bait it with fleſh, liver, cheeſe, &c. and if you run a trail with a ſheep's paunch, as before directed, it will draw him the more eaſily to the bait.

To take an Otter.

Otters are great deſtroyers of fiſh, and will travel in a night ten or twelve miles; they lie under the roots of trees near the water; ſome take them with ſnares, and others with ſpears, and ſome with hunting dogs.

Birds are no annoyance to the farmer, nor gardens, for they deſtroy more caterpillars, ſlugs, ſnails, and other vermin, that do ten times more miſchief than they do.

Fiſh to catch.

Your baits muſt ſmell well, ſuch are annifeeds, juice of panacea and cummin; 2dly, taſte well, as hog's blood, and wheat bread; 3dly, be intoxicating, as aqua vitæ, lees of wine, &c. and laſtly, make them ſenſeleſs, as marigold flowers, which aſtoniſhes them, ſo doth all yellow flowers, and lime clithimal, Nux Vomica, and nothing better than cocculus Indiæ.

Eels to catch.

Take ſea ſtone-work, ſea onions one ounce, mix them together, and throw where eels come.

To take pikes.

Take what quantity of blown bladders you will, and tie a line to the mouth of them, longer or ſhorter, as the water is in depth; bait your hook artificially, and the pike will take it, and make you ſport; the ſame may be done by tying your line to the leg of a duck or gooſe.

Fiſh

Fiſh to bring together.

Boil barley in water till it burſt, with liquorice, a little mummy and honey; then beat them together to a paſte, and throw little pellets, when it is almoſt dry, where fiſh are, and it will bring them together. Or freſh horſe dung thrown into the water does it.

To take a pike as ſhe lies ſleeping and ſunning in fair weather, with a loop or net.

March and Auguſt is the beſt time. Take a long pole or rod that is light and ſtraight, on the ſmall end faſten a running loop of twiſted horſe-hair and ſilk, or made of wire of a large compaſs, which gently draw on him, and when it is five or ſix inches over his gills, hoiſt him up; if it is a ſmall pike, draw it not ſo far on, make no noiſe in walking or ſpeaking if he lies ſo that you cannot conveniently nooſe him, touch his tail with the rod, and he will turn as you pleaſe; alſo with a hand-net, putting it gently under water, guide it juſt under him, and then do it quick as you can.

To catch fiſh.

Take cocculous Indiæ, and ſome wheat flour, and with ſweet wine, milk or mead, make a ſtiff paſte, then make pellets, and throw them where fiſh are, and you may take them with your hands. Or, take aſſa fœtida, flour, milk, and honey make into a paſte, and bait your hook with it.

Fiſh to ſox.

Take hartworth and unſlacked lime beat ſmall, throw it into the water when calm, and it will make them drunk, ſo that you may take them with your hands.

Fiſh. Take elder leaves; ſavory and thyme, of each a like quantity; then take ox or ſheep's ſuet, and lees of wine, beat

beat them in a mortar, and throw little pieces into the water an hour before your fiſh.

Fiſh. Take cocculus Indiæ, old cheeſe, cummin-ſeed, and wheat-flour, make a paſte with brandy, and throw pieces in as big as a pea, and they that eat it you may take.

To take fiſh with your hand.

Get nettles and cinque-foil, ſtamp them together with houſeleek juice; then take them in your hand and ſtir in the water, and the fowl will come to you. Or take coccolus Indiæ, ſoft cheeſe, honey, and crumbs of white bread; make it into paſte, and throw it into the water.

Fiſh. Get ſheep-ſuet and garlick, mix it with wheat or barley flour, and with wine make it into a paſte; throw it into the water, and you may take fiſh with your hands. Some take elder leaves, wild marjoram and thyme, all dried, and mix ſheep's blood with them; then dry them in an oven, and throw lumps into the water.

Fiſh. Get unſlacked lime, and mingle it with birthwort beat ſmall, and caſt it into the water, the fiſh will greedily eat it, and turn on their backs, but they are not the worſe for eating. Or, with the juice of dragonwort anoint your hands, and they will come to it. Or, oil of camomile put to your bait, does it.

Fiſh. Get a quarter of an ounce of oriental berries, cummin ſeed and aqua vitæ, each a ſixth part of an ounce, cheeſe an ounce, wheat-meal three ounces; make little pellets and throw where the fiſh are.

BIRD-LIME.

Stuff prepared after different ways: The common method is to peel a good quantity of holly bark about midſummer, fill a veſſel with it, put ſpring-water to it; boil it till the grey and white bark ariſe from the green, which will require twelve hours boiling; then take it off the fire, drain the water well from it, ſeparate the barks, lay the green bark on the ground in ſome cool cellar, covered with any green rank weeds, ſuch

as

as dock thiſtles, hemlock, &c. to a good thickneſs; let it lie fourteen days, by which time it will be a perfect mucilage; then pound it well in a ſtone mortar till it becomes a tough taſte, and that none of the bark be diſcernable; next after waſh it well in ſome running ſtream, as long as you ſee the leaſt motes in it; then put it into an earthen pot to ferment, ſcum it four or five days, as often as any thing riſes, and when no more comes change it into an earthen pipkin, add a third part of capon's or gooſe greaſe to it, well clarified, or oil of walnuts, which is better, incorporate them on a gentle fire, and ſtir it continually till it is cold, and thus it is finiſhed.

How to uſe Birdlime.

When lime is cold, take your rods and warm them a little over the fire; then take your lime and wind it about the top of your rods, then draw your rods aſunder one from another, and cloſe them again, continually plying and working them together, till by ſmearing one upon another, you have equally beſtowed on each rod a ſufficient proportion of lime.

Of taking ſmall Birds which uſe Hedges and Buſhes, with Lime Twigs.

The great lime-buſh is beſt for this uſe, which you muſt take after this manner: cut down the main branch or bough of any buſhy tree, whoſe branch and twigs are long, thick, ſmooth, and ſtraight, without either pricks or knots, of which the willow or birch tree are the beſt; when you have pickt it and trimmed it from all ſuperfluity, making the twigs neat and clean, then take the beſt birdlime, well mixed and wrought together with gooſe greaſe, or capon's greaſe, which being warmed, lime every twig therewith within four fingers of the bottom.

A Secret to hinder Pigeons from quitting a Pigeon-Houſe.

Take the head and feet of a gelt goat, and boil them together till the fleſh ſeparates from the bone; take this fleſh and boil it again in the ſame liquor, till the whole is conſumed; bruiſe into

into this decoction, which is very thick, ſome potter's earth, out of which you are to take all the ſtones, vetch, dung, hemp, ſoot and corn; the whole muſt be kneaded together, and reduced to a paſte or dough, which form into ſmall loaves about the thickneſs of two fiſts, and dry them in the ſun or oven, and take care they do not burn; when they are baked, lay them in ſeveral parts of the pigeon-houſe, as ſoon as they are ſet there, the pigeons will amuſe themſelves with pecking them, and finding ſome taſte therein which pleaſes them, they will keep ſo cloſe to it that they will not afterwards leave it but with regret. Others take a handful of ſalt, which they candy, and afterwards put into the pigeon-houſe. Some take a goat's head and boil it in water, with ſalt, cummin, hemp and urine, and then expoſe it in the pigeon-houſe, which amuſe the pigeons. Laſtly, there are thoſe who fry millet in honey, and add a little water thereto, to prevent its burning; this preparation is a repaſt to them, and will cauſe them to have ſuch an affection for their ordinary habitation, that they will be far from abandoning it themſelves, that they will draw ſtrange pigeons to it.

Birds and Fowls of all Sorts to take.

Get ſeeds (all ſorts that fowl love) and lay it to ſoak in lees or mother of wine, ſtrew it where they come, and it will fox them, ſo that you may catch them with your hands.

Birds to keep from Fruit.

Hang a bundle of garlick on a branch of a tree, or lay it on your corn ſtalls, and they will not touch your fruit. Some ſmear their tree branches with juice of garlick.

BOOK VI.

The ART of PAINTING in OIL.

To which is added,
The whole Art of Gilding with Gold and Silver, and mixing Water-colours, &c.

A Catalogue of the ſeveral Colours uſed in Painting with Oil.

WHITES.

THE principal of all whites is white lead.

Of this colour there are two ſorts, the one called ce-

ruſe, which is the moſt pure and clean part, the other is called by the plain name of white lead.

BLACKS.

Lamp black.
Lamp, or candle black.
Ivory black.
Willow charcoal.

REDS.

Vermillion is the moſt delicate of all light reds, being of itſelf a perfect ſcarlet colour.

Lake, eſpecially is the richeſt ſort, is the beſt of all dark reds, being a moſt pure crimſon.

Red lead is the lighteſt of all reds now in uſe; it is a ſandy, harſh colour, and ſuch a one as is not eaſily ground very fine, altho' you beſtow much labour on it.

Spaniſh brown is a dark, dull red, of a horſe fleſh colour; it is an earth, it being dug out of the ground, but there is ſome of a very good colour, and pleaſant enough to the eye, conſidering the deepneſs of its colour: it is of great uſe among the painters, being generally uſed as the firſt or priming colour, that they lay upon any kind of work, being cheap and plentiful, and a colour that works well, if it be ground fine, as you may do with leſs labour than ſome better colours do require; the firſt ſort is the deepeſt colour, and free from ſtones; the other ſorts are not ſo good as to give a colour to the eye, but yet they ſerve as well as any others for a priming colour.

YELLOWS.

Yellow oaker is of two ſorts, one called plain oaker, the other ſpruce oaker, the one is much lighter colour than the other.

Pink Yellow.

Orpiment is that colour which ſome call yellow arſenick.

Maſticote

Maſticote is a good light yellow for moſt uſes, eſpecially in making greens, of which ſeveral ſorts may be framed out of this colour, being mixed with blue.

GREENS.

Verdigreaſe is the beſt and moſt uſeful green of all others.

Green bice is of a ſandy nature, and therefore not much uſed; green verditer is alſo of a ſandy colour; neither of them bear any good body, and are ſeldom uſed but in land-ſkips, where variety is required.

BLUES.

Blue bice bears the beſt body of all bright blues uſed in common work, but it is the paleſt colour.

Blue verditer is a colour of no great body, but ſomething ſandy, and of no very good colour itſelf, being apt to turn greeniſh, and being mixt with a yellow makes a good green.

Indigo is a dark blue, if worked by itſelf, to remedy which, whites are uſually mixt, and then it makes but a very faint blue.

Note, that the longer this colour is grounnd, the more beautiful and fair it looks.

Smalt is the moſt lovely blue of all others.

Note, that of this colour there are two ſorts, the fineſt is that which is called oil ſmalt.

Umber is a colour that really has no affinity with the others above-mentioned, being neither white, black, red, yellow, blue or green, yet it is a colour of as great uſe as any of the reſt in common painting.

How to make a Size to gild both with Gold and Silver.

THE operation is thus for making of gold ſize; take yellow oaker, and grind it on a ſtone with water till it be very fine, and afterwards lay it on a chalk ſtone to dry: this is the common way: or you may waſh your oaker, for when it is waſhed, to be ſure nothing but the pureſt of the colour

colour will be uſed; and beſides, it is done with leſs daubing.

When your oil and oaker are thus prepared, you muſt grind them together as you do other oil colours, only with fat drying oil, but it is ſomewhat more laborious, and muſt be ground very fine, even as oil itſelf: for the finer it is, the greater luſtre will your gold carry that is laid on it.

Here note, that you muſt give it ſuch a quantity of your fat oil, that it may not be ſo weak as to run when you have laid it on; nor ſo ſtiff that it may not work well; but of ſuch a competent body, that after it is laid on, it may ſettle ſmooth and gloſſy, which his the chief property of good ſize.

Silver ſize is made by grinding white lead with fat drying oil, ſome adding a little verdigreaſe to make it bind.

The practice of working oil colours, and painting timber work after the manner of common painting.

THAT which I here call common painting, is only the way and manner of colouring all manner of wainſcot, doors, windows, poſts, rails, pales, gates, border-boards for gardens, or any other materials that require either beauty or preſervation from the violence of rain, or injury of weather; the method of doing which, I ſhall lay down as plain as I can. Suppoſe then, that there be a ſet of palliſadoes, or a pair of gates, or ſome poſts and rails to paint, and I would finiſh them in a ſtone colour; firſt look over the work, and take notice whether the joints be open in the gates, or whether there be any large clefts in the poſts, for if theſe are not ſecured, the wet will inſinuate itſelf into theſe defects, and make the quicker diſpatch in ruining the whole work; let the firſt buſineſs therefore be, to ſtop up theſe places ſmooth and even, with a putty made of whitening and linſeed oil, well beaten together on the grinding ſtone, with a wooden mallet, to the conſiſtence of a very ſtiff dough, and with this let all the crannies, clefts, and other defects be perfectly filled up, that it may be equal to the ſurface of the ſtuff,

then

then proceed to the priming of the work with ſome Spaniſh brown well ground and mixt with very thin linſeed oil; with this do over the work, giving it as much oil as it will drink up; this in about two days will be indifferently dry, then if you would do the work ſubſtantially, do it over again with the ſame priming colour; when this is thoroughly dry, then take the white lead, well ground and tempered up, not too thin, for the ſtiffer you work it, the better body will be laid on, and the thicker coat of colour that your timber is covered withal, the longer it will laſt; let this colour be well rubbed on, and the whole ſurface of the work be ſo entirely covered, that there remain no creek nor corner bare, which you may eaſily do by jobbing in the point of a briſtle bruſh; let this firſt colouring dry, and then go over it a ſecond time, and if you pleaſe a third alſo; the charge will be a little more, but the advantage will be much greater.

This courſe is ſufficient for any kind of timber work that requires only a plain colour, whether you thus cover the work with the ſtone colour, or elſe with a timber colour in umber and white, or a lead colour in indigo and white, that being the cheapeſt of the three by much; nay, I have known ſome lay over their work only with a coat of Spaniſh brown, by tempering it more ſtiff than was done for the two firſt primings, which in ſome reſpects is cheapeſt of all, and preſerves the timber perhaps as well as any. Now he that is able to bring the work thus far on, has proceeded to the higheſt pitch of that common painting that aims at preſervation beyond beauty, tho' ſomething of beauty is neceſſarily included in this alſo; but this is not all, for he that is arrived thus far, is in a fair way to other perfections in the art of painting: but the panelling of wainſcot with it's proper ſhadows, and for imitating olive and walnut wood, marble, and ſuch like, theſe muſt be attained by ocular inſpection, it being impoſſible to deliver the manner of the operation by precept without example, and I am bold to affirm, that a man ſhall gain more knowledge by one day's experience than by a hundred ſpent to acquire it ſome other way.

I adviſe therefore all thoſe that deſire any inſight into this

buſineſs

buſineſs, to be a little curious, if opportunity offers, in obſerving the manner of a painter's working, not only in grinding his colours, but alſo in laying them on, and working them in; in all theſe obſerving the motion of his hand in managing any kind of tool, and by this means, with a little imitation, joined to the directions here given, I doubt not but in a ſhort time you may arrive to great proficiency in the buſineſs of common painting.

Note, That if when you have made uſe of your colours, there be occaſion for a ſmall ceſſation till the work is finiſhed; in this caſe it is beſt to cover the colours in your pot with water, for that will prevent their drying, even in the hotteſt time.

And for your pencils, they ought ſo ſoon as you have done working, to be clean waſhed out in linſeed oil, and then in warm ſoap ſuds; for if either oil or colours be once dried in the bruſh or pencil, it is ſpoiled for ever.

It has been obſerved, that timber laid over with white when it has ſtood ſome time in the weather, the colour will crack and ſhrink up together, juſt as pitch does, if laid on any thing that ſtands in the ſun; the cauſe of this is, that the colour was not laid on with a ſtiff body, able to bind itſelf on firm and faſt.

If you ſhall have at any time occaſion to uſe either bruſhes that are very ſmall, or pencils, as in many caſes there will be occaſion, you ought then to diſpoſe of the colours you uſe upon a pallet (which is a wooden inſtrument, eaſy to be had at any colour-ſhop) and there work and temper them about with your pencil, that the pencil may carry away the more colour; for you are to note, that if a pencil be only dipt into a pot of colour, it brings out no more with it than what hangs on the outſide, and that will work but a little way; whereas if you rub the pencil about the colour on the pallet, a good quantity of colour will be taken up in a body of the pencil; and beſides all this you may work your pencil better to a point on a pallet, than you can do in a pot; the point of a pencil being of the greateſt uſe in divers caſes, eſpecially in drawing of lines and all kinds of flouriſhing.

What Colours are moſt ſuitable and ſet off beſt one with another.

BY ſetting off beſt, I mean their making each other look moſt pleaſant, for two of ſome particular colours put together, or one next the other, ſhall add much to the beauty of each other, as blue and gold, red and white, and ſuch like: but green and black put together, look not ſo pleaſant, neither do black and umber, or haw colour, and ſuch like.

All yellows then ſet off beſt with blacks, with blues, and with reds.

All blues ſet off beſt with whites and yellows.

Greens ſet off well with blacks and whites.

Whites ſet off well enough with any other colour.

Reds ſet off beſt with yellows, whites and blacks.

Gold looks well upon a white ground, eſpecially if the matter to be guilt be carved.

Gold and black ſhews alſo very well.

Gold on timber colour ſhews alſo very well.

So does gold and horſe-fleſh colour, made with the brighteſt Spaniſh brown.

But the muſt glorious ground of all others for gold are the vermillion red, the ſmall blue, and the lake, laid on a light ground.

Of ſome Colours that ariſe from mixture.

Aſh colour is made of white lead and lamb black: if a deep aſh colour, then take the more black, if a light one, then take but little black, and moſt white.

A lead colour is made of indigo and white.

A colour reſembling new oaken timber, is made of umber and white lead.

A fleſh-colour is compounded of lake, white lead, and a little vermilion.

A buff colour take yellow oaker and white lead.

For a light willow green, take verdigreaſe and white.

For a graſs green, take verdigreaſe and pink.

A carnation is made of lake and white.

Orange colour, yellow oaker and red lead.

A light timber colour, mix ſpruce oaker and white, and a light umber.

Brick colour, red lead, a little white and yellow oaker.

For a ſtraw colour, take white lead and a little yellow oaker.

Olive wood is imitated with oaker and a little white, veined over with burnt umber.

Walnut tree is imitated with burnt umber and white, veined over with the ſame colour alone, and in the deepeſt places with black.

Pales and poſts are ſometimes laid over with white, which they call a ſtone colour.

Sometimes poſts and pales are laid over with indigo and white, which is called a lead colour.

Window frames are laid in white, if the building be new, but if not, they generally are laid in lead colour, or indigo and white, and the bars with red lead.

Doors and gates, if painted in pannels, then the ſhadows of a white ground are umber and white, but if laid in a lead colour, then the ſhadows are liſted with black,

'Tis not poſſible to ſet down all thoſe varieties of colours that may be produced by mixture; they that would ſet more, may peruſe Dr. Salmon's Poligrafice, where they ſhall find great variety. But thoſe which I here have given an account of, are ſufficient for common painting.

How to gild with Gold on an oily Size, either Letters or Figures, &c.

WHatſoever you would gild muſt firſt be drawn with gold ſize (the making of which has been mentioned) according to the true portion of what you would have gilt, whether figure, letter, or whatever elſe it be; when you have thus drawn the true proportion what you would have gilt, let it remain till it be ſufficiently dry to gild upon, which you ſhall know by touching it with the end of your finger, for if your finger ſticks a little to it, and yet the colour come not off, then it is dry enough, but if the colour come off on your finger, then it is not dry enough, and muſt be let alone longer; for if you would then lay your

your gold on, it would then ſo drown it, that it would be worth nothing: but if your ſize ſhould be ſo dry as not to hold your finger as it were to it, then it is too dry, and the gold will not take; for which there is no remedy but new ſizing; therefore you muſt watch the true time, that it be not too wet or too dry; both extremes being not at all convenient.

When your ſize is ready for gilding, take your book of leaf gold, and opening a leaf of it, take it out with your cane plyers, and lay it on your gilding cuſhion, and if it lie not ſmooth, blow on it your breath, which will lay flat and plain, then with a knife of cane, or for want of it, an ordinary pocket knife, that hath a ſmooth and ſharp edge; with this (being wiped very dry on your ſleeve, that the gold ſtick not to it) let your leaf gold be cut into ſuch pieces or forms as your judgment ſhall think moſt ſuitable to your work.

When you have thus cut your gold into convenient forms, then take your gilding pallet, ('tis a flat piece of wood, about three inches long and an inch broad, upon which is to be glued a piece of fine woollen cloth of the ſame length and breadth) and breathe upon it to make it dampiſh, that the gold may ſtick to it; with this tool take your gold (by clapping it down on the ſeveral pieces you had before cut into forms) and transform it to your ſize, upon which clap down according to diſcretion, and your gold muſt afterwards preſs down ſmooth with a bunch of cotton; or a hare's foot; and this you muſt do piece by piece till you have covered all your ſize gold; and after it is fully dried, then with your hare's foot bruſh off all the looſe gold, ſo will your gilding remain fair and beautiful.

If your work to be gilt be very large, open your book of leaf gold, and lay the leaf down on your work without cutting it into pieces, and ſo do leaf by leaf till you have covered quite over what you intend to gild: and if ſome particular places ſhould miſs there, take up with a ſmall bunch of cotton a piece of leaf gold, cut to a fit ſize, and clap it on, that the work may be entirely covered; if the gold be to be laid in the hollows of carved work, you muſt take it

up on the point of a camel hair pencil, and convey it in, and with the ſaid pencil dab it down till it lie cloſe and ſmooth.

How to gild with Silver.

IN laying on ſilver upon an oily ſize, the ſame method in all reſpects is required as for gilding with gold, ſave only in this, that the ſize, upon which ſilver is laid, ought to be compounded of a very little yellow oaker, the ſilver laid on it will look more natural, and retain its own colour better, the whiter the ſize is.

Note, That the common painters do now generally in gilding uſe more ſilver than gold, in moſt works that are not much expoſed to the air, to which they afterwards give the colour of gold, by means of the lacker varniſh, whoſe uſe is now ſo common, that if they gild any thing that ſtands free from the weather, they only gild with ſilver, and ſo give it the cover of gold, with a lacker varniſh, made of gum lake, diſſolved in ſpirit of wine, and laid over it.

How to overlay Wood with Gold or Silver.

To prepare this work, you muſt be furniſhed with parchment, ſize, that is, the cuttings of parchment, boiled in fair water, to a jelly, and when ſtrained and cooled, it will prove a ſtrong ſize.

When you are to uſe it, put as much as you ſhall want into an earthen pot, and make it hot, then as it is cooling, ſcrape as much fine whiting into it as will colour it, mix them well with a clean bruſh, and with this mixture white your wood or frame, ſtriking or jobbing your bruſh againſt it, that it may the better enter into the hollowneſſes of carved work; then give it reſt that it may dry.

This done, melt the ſize again, and put in more whiting, to render it ſome degrees thicker, and with this do over the frames ſeven or eight times, or as you ſee there is a neceſſity, and when it is dry open with a gouge no bigger than a wheat ſtraw, the veins in the carved work that the whiting has ſtop-

ped

ped up, then with a fine rag and water carefully plain it over, and ruſh it ſmooth when dry, if neceſſity require it; and in this condition it will receive your gold or ſilver ſize. But before I proceed I ſhall teach you to make theſe ſizes.

The beſt Gold Size at preſent in Uſe.

Take an equal quantity of the beſt French and Engliſh bole armoniac, grind theſe fine on a marble ſtone with fair water, then ſcrape into it a little candle greaſe, incorporate and grind all theſe well together, then mix a little quantity of parchment ſize with a double proportion of water, and the buſineſs is done.

The beſt Silver Size in Uſe.

Grind the tobacco pipe-clay very ſmall, mix with it as much lamp-black as will turn it of a light aſh-colour, and to theſe add bits of candle-greaſe, grind them very fine together, a mixture of ſize and water, and try theſe on the corner of the frame; if it be rough in burniſhing put more oil or greaſe, and as near as you can bring it to a due temper, that it may work well.

To Size your frames, or other Matters.

To do this make the ſize blood warm, and with a fine broſh ſtir it very well, till it is ſomewhat thin, go over the frames with it twice or thrice, yet touch not the hollow parts of the deepeſt carvings, where the gold cannot conveniently be laid, for the yellow colour nearly reſembling firſt laid on, the fault will not ſoon be diſcovered; let it dry four or five hours, and then try the gold if it will burniſh on it, if not altar the ſize, and do it over again.

To lay on Gold in order to burniſhing.

Let your frame, or other matter intended, to be ſet on an eazle, place the leaf gold on a cuſhion, to be held in your left hand

hand with the pallet and pencil. You muſt for this work have a ſwan's quill pencil, or a larger of camels hair, if th work require it, dip it in water, and wet no more of your frame at a time than will take three or four leaves, make your begining at the lower end, and ſo proceed upward, laying on whole leaves, or half ones, as it requires; then wet ſuch another part of your work, and lay on the gold with your pencil, or cotton, gently preſſing it very cloſe; and having gilded the upright ſides, turn the frame, and procced the ſame way with the ends, then ſurvey the ſpots and places that are omitted, and cut ſmall parts of gold to cover them, when wetted, with a ſmaller pencil than before; when it is ſo finiſhed let it ſtand till the next day that time you leave off.

To burniſh the Gold Work.

Take a wolf or dog's tooth, if you cannot get pebbles formed in the ſame ſhapes, and burniſh ſo much of the work as you deſign, leaving the ground of the carving untouched, and ſome other parts, as you ſee beſt convenient, which in reſpect of burniſhing, being rough, the better ſets it off; that which is omitted to be burniſhed muſt be matted, or ſecured with ſeed lac varniſh, or lacker; if you deſign it a deeper colour, then muſt your work be reoſſeſt, or ſet off with lacker, mixed with ſaffron and dragons blood, or the colour called ornator, and with a fine pencil dipped therein touch the hollowneſs of the carving, and the veins of the foldages or leaves; if you fancy it is not deep enough, you may by a repetion make it ſo, and the work is done.

To lay on ſilver Size.

Warm the ſilver ſize that is newly ground and mingled with weak ſize. do it once or twice, and let it dry, and dry the leaf ſilver, if it will burniſh on it, it is prepared for the work; but if it will not, make an alteration in the ſize, and for the reſt lay on the leaf ſilver, and do as you did by the gold, and it will anſwer.

Note, as farther rules, and obſerve them.

1. Let

1. Let your parchment ſize be ſomewhat ſtrong, keep it not long, leſt it ſpoils.

2. Grind no more ſilver or gold ſize than juſt you have preſent occaſion for.

3. Ever keep your work clean from duſt, after it is ſized and gilded, or elſe in burniſhing it will be full of ſcratches.

4. Do not whiten or burniſh gold ſize in hard froſty weather, for then the whiting will be apt to peel off, and the gold ſlaw.

The Art of Gilding METALS.

To prepare the Gold.

TAKE ducket or leaf gold, what quantity you deſire obſerve to beat the ducket very thin, and put this gold with as much quickſilver as will juſt cover it, into a gallipot, where let them continue half an hour where immediately after the mixture, ſtir them with a ſtick, then ſtrain them thro' a piece of leather, ſqueezing with your hand till you have forced out as much quickſilver as you can induſtriouſly do, ſo that what remains in the leather looks more like ſilver than gold, yet this only muſt be employed in gilding after the following manner.

To gild, with Gold, Silver, Copper, Braſs, Princes Metal, &c.

Bruſh firſt your metal well with a wire bruſh, wet it with water or beer, and bruſh on till the dirtineſs or filth be quite removed, that the gold may more cloſely join it; prepare then your quickſilver, by mixing it with a little aquafortis in a vial, three or four drops of the aquafortis to an ounce of the quickſilver, quicken your work with it, viz. Rub it over with a rag or your finger, till it appears all ſilver'd, or touch'd. This done, take your prepared gold, and with a ſmall knife, or iron tool proper for the purpoſe, ſpread or overlay the whole piece, omitting no part, give it two or three little heats before you give it a thorough heat, ſo that with a hair bruſh like a comb bruſh, you may dab and ſpread your gold, theſe

theſe little heats making the quickſilver more ready to comply; then give it the thorough heat, which will compel the mercury or quickſilver to evaporate or fly away; then take it from the fire and with a ſcrub bruſh, untouched with quickſilver, cleanſe it as at firſt; if you perceive any untouched ſpot of quickſilver, the gold muſt be laid on it again, when it is cleanſed with a ſcratch bruſh, and after this manner you may heighten its colour if you ſee it neceaſſary.

To heighten the colour of Gold.

Take an equal quantity of ſalt, argol and brimſtone, mix them with as much fair water as will cover the gilded metal in a ſtring, plunge it in for a little ſpace, often plunging, and looking as often on it as you draw it out, and when the colour is heightened to your expectation, dip it in cold water, and the work is done; you may in the foregoing manner double or treble gild, till the gold enriches it to a laſting thickneſs and colour.

To gild Silver or Braſs with Gold Water.

Take two ounces of quickſilver, put it into the fire in a crucible, and when it firſt ſmoaks, put into it an angel of fine gold; ſo immediately take it off, and the gold will be preſently diſſolv'd, and if it appear too thin, ſtrain part of the quickſilver through fuſtian, then rub the quickſilver and gold on braſs or ſilver and it will ſtick to it; ſet the braſs or ſilver on quick coals, till it begins to ſmoke; ſcratch it with a bruſh, that the mercury may ſeparate and evaporate, and leave the gold a faint yellow; then heighten it with bole, ſal armoniac and verdigreaſe; grind and temper it with water.

To gild Knives, Swords, Steel, &c. with Water Gold.

Powder fire ſtone, and put it into ſtrong red wine vinegar; let it remain in it 24 hours, boil it in a gallon pot, putting in more vinegar as the other evaporates. Into this water dip the metal, and at firſt it will be black, but being dried and well poliſhed, under that blackneſs, there will be a curious gold colour.

BOOK VII.

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Directions for making of Colours for divers Purpoſes, in the Art of painting Prints with Water Colours.

Colours for ſeveral Faces.

FOR faces that are accounted fair, take white lead, a little vermillion, and a ſmall touch of lake.

For the lips take more of the vermillion and lake than you did for the face.

For a brown face, take burnt oaker and white.

For a tawney-moor, take cullen's earth, a little burnt oaker and a little white.

Colours for Hair.

For a brown hair, mix umber and a little black and white.

For a yellow hair, take ſtone oaker, white lead and a little vermillion.

For a flaxen hair, take white lead, ſtone oaker, and a little cullen's earth.

Linen is done with white lead or ceruſe.

Silver is done with white, a little ſmalt and ſome white maſticote.

Gold is done with red orpiment and white maſticote, of each an equal quantity.

Colours for Garments.

For blue garments, the beſt ſmalt and white lead.

For a graſs green, mix verdigreaſe, and a little pink-yellow.

For a willow green, mix verdigreaſe and a very little white.

A ſea-green is made by mixing green verditer, pink and white lead.

A French green is made by mixing pink and indigo.

A carnation by mixing lake and white lead.

A crimſon is made by mixing vermillion, lake and white.

A ſcarlet is vermillion laid on alone.

A cherry colour is made by mixing vermillion and white lead.

For yellow, lay on either yellow orpiment, or yellow maſticote; if your yellows are more pale then mix white with the former.

For an orange colour, mix red orpiment and a little vermillion.

For a purple, mix ſmalt, lake and white.

For a violet, mix bice and lake,

A ſtraw colour is made with white and yellow oaker, and a very little umber.

An aſh colour is made by mixing black and white.

A cheſnut colour is made by mixing umber, lake and white.

A dove-colour, or the wings of an angel, take white, a little lake, and a little ſmalt.

Colour for Trees.

For bodies of trees, take pink, yellow, white lead, yellow oaker, and a little black.

For the leaves of them that are near the eye, take verdigreaſe and pink, or if darker coloured, then take indigo and pink.

For leaves of trees farther off, take green verditer, pink and white lead.

For them that are fartheſt of all, take terra-verd and white.

Colour for Grounds behind a Picture.

Note, that a light hair requires a dark ground, and a dark hair a light ground.

Ground colour for a picture with a light hair is made with umber, white and black.

A ground colour for a dark hair is made with umber and white.

For Ground in a Landſcape.

Tinge pink, oaker and white, with a little green verditer.

For country houſes at a diſtance, take white lead, yellow oaker and ſmalt; the ſame colour ſerves alſo for houſes of ſtone.

For brick houſes or walls, take yellow oaker, burnt, and white lead, if the work be far off, but if near, then Indian red, and a little white.

For pales of wood or other timber work of what kind ſoever, in country cottages, take umber, white, and a little oaker.

Sky Colours,

Are made of ſmalt and white for the higheſt ſkies, more white for the lower, and yellow mixt with a little vermilion for the loweſt of all.

To extract Lake, and other curious Colours, from Flowers, &c. for Painting.

To extract Lake from red Roſes, wild Poppies, red Violets, Flower-de-Luce, Orange, Borage, Carnation, or other Flowers.

TO do this, take what quantity you pleaſe of the leaves of flowers, which being bruiſed in a leaf of white paper, tinges it with its colour: You may aſſure yourſelves of ſucceſs, but thoſe herbs or flowers that do not ſo, are not ſerviceable in this way.

This experiment being made, put ordinary aqua vitæ into a glaſs body, the head as large as may be, and in the top put the leaves of ſuch herbs and flowers from which you would draw a tincture; then lute the joints of the head, and fit a receiver to it, ſo give it a temperate heat, that the more ſubtil part of the aqua vitæ aſcending to the head, and falling to the flowers, may ſuck out the tincture, ſuffering it to do ſo, ſo long as it comes colour'd, after that diſtil the colour'd aqua vitæ in a glaſs veſſel, which will be over white as it cometh forth as it is

fit for uſe in this nature at other times; and then the tincture remaining at the bottom muſt not be over-dried, but care taken that it may be moderately done; and ſo you may have the tincture of curious lake from all flowers and herb fit for limning, and other beautiful works.

Yellow Lake, extracted from Broom Buds, or other yellow Flowers that have a good Tincture, another way

Make a lee of lime and barilla tolerably ſtrong, and in it over a gentle fire boil freſh broom flowers, having their full ſap or ſubſtance in them. Order it ſo, that the lee may draw to it all the tincture of the flowers, which will be known by their turning white, the lee being then as yellow as the ban wine; after that, let it boil by degrees, and put to it ſo much roch-allum as may well diſſolve with the fire. When it is well ordered, put the lee into veſſels of fair water, and the yellowneſs will ſettle at the bottom; ſo when the ſettlement is made, decant off the water, and power on that which is freſh, and when the tincture is ſunk, order it as the former. Do this till the ſalt of the ley is quite taken out, as alſo the taſte of the allom, and then the tincture of the colour will be the fairer, and do ſo till the water runs out ſweet, without any ſaltneſs, with the ſame taſte as when it was put in; and then at the bottom you will find a curious and beautiful lake for uſe, and whilſt it is wet ſpread it upon a piece of white cloth, and dry it in the ſhade upon new baked bricks, and keep it dry, and as much from the air as may be; and theſe two ways at your diſcretion, you may extract colours from any flowers or herbs, that have natural tinctures.

To make a curious Blue, or Sky.

Take three parts of the flower of brimſtone, two of quick ſilver, and eight parts of ſal armoniack, grind theſe well on a porphiry-ſtone, and with the quick-ſilver put them into a long necked glaſs, well luted at the bottom, ſet it in ſand, and make a gentle fire till the moiſture riſes, then let the glaſs be ſtopped at the mouth, and encreaſe the fire as the ſublimation, till the end; and a very illuſtrious fair blue will reſult of your labour.

A Lake to be drawn from Cochineal.

Infuſe in cold water a pound of the ſhearings of the fineſt woollen cloth a day and ſo preſs it well to take away the oilineſs of the wool, then in this manner allom the ſhearings, viz. Take of roch-allom four ounces, and two of crude tartar finely powdered, cochineal; put theſe into a little pipkin, with about four quarts of water, and when this begins to boil up put in the flocks, let them boil over a gentle fire half an hour, ſo take them off, and ſuffer them to cool ſix hours, then take them out, and waſh them well with fair water, and when the water is well ſoaked in them, by ſtanding two hours preſs it out, and let the flocks dry. Evaporate the water, and at the bottom you will find a ſediment of a curious tincture, as alſo in the flocks.

The whole Art and Myſtery of colouring Maps, and other Prints, in Water Colours.

HAVING, as yet, ſeen nothing publiſhed upon this ſubject that is authentic, I have thought fit for the ſake of thoſe who are inclined to ingenuity, to ſet forth the way and manner of doing this work, it being an excellent recreation for the gentry, and others, who delight in the knowledge of maps, which, by being coloured, and the ſeveral diviſions diſtinguiſhed one from the other by colours of different kinds, do give a better idea of the countries they deſcribe, than they can poſſibly do uncoloured.

Now, to perform this work after the beſt manner, there muſt be provided in the firſt place a lye made with tartar, and gum water.

To make the tartar lye do thus: take two ounces of the beſt white tartar, which is a ſtony ſubſtance that ſticks to the ſide of the wine veſſels, and is ſold by the druggiſts.

Wrap it up hard and tight in half a ſheet of brown cap paper, wet it thoroughly in water, and put it into a clear fire, either of wood or ſea coal; let it remain therein till it be red hot quite through, then take it out with a pair of tongs, and put it immediately into a pint of water, and with your finger rub it well to pieces; put it into a long narrow glaſs, and in a day or two the black will ſettle, and

the

the lye will become pure and clear; pour off the lye into a clear glaſs, and keep it cloſe ſtopped for uſe.

To make a gum water, take three ounces of the whiteſt and cleareſt gum-arabic, which is alſo ſold at the druggiſts, and beat it as ſmall as you can bruiſe it; then put it into a pint of fair ſpring water, and let it diſſolve there, which will be much haſtened by ſhaking the glaſs three or four times a day very well, that the gum that is diſſolved may mix the better with the water that is above it; and when it is all diſſolved, if there appear any foulneſs in it, ſtrain it through a rag into a glaſs, and ſtop it for uſe. Note, That too much of this ought not to be made at a time; for if the gum be kept too long diſſolved in the water, it will rot, and be of no uſe; therefore obſerve to make it freſh once in two months, or three at the fartheſt.

In the next place, you muſt prepare or make your colours ready for uſe, and the beſt for this work are thoſe that follow: Namely,

Copper green, and that is made thus; take a pound of right French verdigreaſe, made at Montpelier, this being the beſt, for the verdigreaſe made at other places will fade; to this add three ounces of cream of tartar, beat them into a fine powder, and take care, while the verdigreaſe is pounding, to ſtop your noſe, and hold a bunch of fine linen in your mouth to breathe through, elſe the ſubtle powder of the verdigreaſe will be apt to offend; and when this is done, mix both the powders into two quarts of water, and boil it in an earthen pipkin, till it boil away a quart, then ſtrain it out when cold, and put the liquor into a glaſs, ſtop it up, and let it ſtand to ſettle till the liquor be very clear, ſo you will have a delicate green; but ſometimes the verdigreaſe not being always of a goodneſs, the colours may not be deep enough for ſome uſes. In this caſe, put ſome of it into a broad earthen diſh; and ſet it over a chiſing-diſh of coals, and by a gentle heat, diminiſh ſo much of the liquor, till by trying on a paper, and letting of it dry, the colour will pleaſe you; and here you are to note, That if it ſhine too much when dry, it is not right; for it is not rightly made except it but juſt ſhine; and if you cannot make the colour deep enough by evaporating by heat the abounding liquid, without making it ſhine

too much, it were better to add ſome verdigreaſe, and boil it up anew till it become a tranſparent deep willow green. If you make but a pint of this, you muſt take but half the quantity of each; and you are alſo to take notice, that this is a colour that will keep many years without decaying, if the glaſs that holds it be cloſe ſtopped up.

The next colour needful to be made, is a ſtone colour, or a liquor of myrrh, which is thus done; take a pint of your tartar lye, and add to it one ounce of the beſt myrrh in powder, which you can get at the druggiſts, and boil it till the myrrh is diſſolved, which will be done in a ſmall time; let it ſettle, and pour off the clear for uſe, which you muſt keep cloſe ſtopped up; this is alſo a tincture that will never decay, and may be made fainter or deeper by boiling more of the liquor away to make it deeper, or by adding water to make it fainter.

And in the laſt place there is required a crimſon colour, is ſpeedily made thus: Buy at the druggiſts good cochineal, about half an ounce will go a great way; take 30 or 40 grains, bruiſe them in a galley-pot to fine powder, then put to them as many drops of the tartar lye as will juſt wet it, and make it give forth its colour; and immediately add to it half a ſpoonful of water, or more, if the colour be yet deep, and you will have a delicate purple colour or tincture. Then take a bit of allum, and with a knife ſcrape very finely a very little of it into the tincture, and this will take away the purple colour, and make it a delicate crimſon. Strain it through a fine cloth into a clean gallipot, and uſe it as ſoon as you can, for this is a colour that always looks moſt noble when ſoon made uſe of, but it will decay if it ſtands long.

Indigo is another colour uſed in colouring of maps.

This is bought at the colour ſhops that ſell paint, and it muſt be ground very fine on a ſtone, as you do all colours, with a little tartar lye to make it give its colour, and look the brighter; when it is ground perfectly fine like a thick ſyrup, add gum water to it till it be thin enough for your purpoſe, and keep it in a glaſs cloſe ſtopt up, but it will ſettle ſo, that when you uſe it, you muſt ſtir it up from the bottom.

For a yellow, gumbege is the beſt; it is ſold at the drug-

gifts in lumps, and the way to make it fit for uſe is to make a little hole with a knife in a lump, and put into the hole ſome water, ſtir it well with a pencil till the water be either a faint or a deep yellow, as your occaſion requires, then pour it into a gallipot, and temper up more till you have enough for your purpoſe.

Red lead is alſo a colour much uſed in this work, and ſo is orpiment; both which you may buy at the colour ſhops very finely ground, ſo that they need only be tempered with gum water to be fit for uſe.

Blue bice is alſo often uſed, which needs only to be tempered with gum watered, and when men deſign to be curious, they may uſe inſtead thereof, ultramarine, which is the beſt and moſt glorious of all blues, but vaſtly dear; yet ſmall papers of it about two ſhillings price may be bought at ſome colour ſhops, which if carefully uſed, will go a great way; it need only to be tempered in a very ſmall gallipot, with ſome gum water, till it lie on the paper with a good colour.

There is likewiſe an exceeding glorious red or crimſon colour, named carmine, which is exceeding dear, yet about half a crown's worth will go a great way in the uſes to which it is put; it is tempered with gum water, and gives ſeveral degrees of colour, according as it is thicker or thinner tempered.

Vermilion is alſo uſed in ſome caſes. This is a glorious ſcarlet, that needs only to be tempered with gum water: for it may be bought very finely ground to powder at the colour ſhops; only it is to be noted, that this colour ſhews much brighter when dry, if glazed over with ſome thick gum water, which is made by putting two ounces of gum arabick to half a pint of water or leſs.

And for ſome uſes burnt umber, ground very fine with water as thick as poſſible, and then tempered with gum water to a due thickneſs, makes a good tranſparent colour.

There is another colour needful in this work, which is a moſt pleſant graſs green, and that is made thus: take a lump of gumboge, and make a hole in it, then put therein ſome copper green, ſtir it about with a pencil, and from a willow you will ſee it turn to a graſs green, which you may make deeper or lighter as you ſtir it about a longer or leſſer time,

Of the practice of colouring MAPS.

THE colours being prepared as before directed, the only way to colour maps well, is by a pattern done by ſome good workman, of which the Dutch are eſteemed the beſt; three or four ſuch maps coloured by a good artiſt, are ſufficient to guide a man in the right doing of his work; but if he cannot obtain this, he may by a few trials grow a good artiſt in a ſhort time; for this is only attained to by practice, and if a man ſpoil half a ſcore maps in order to get the method of colouring a map at laſt, there is no man that is ingenious will grumble at it.

The art of colouring right may be attained by practice, as was ſaid, but the hardeſt thing is to know rightly how to make and prepare the colours properly, without ſuffering them to ſink into it; all that are here mentioned will lie fair and pleaſant to the eye, and it is the fairneſs of the colour is moſt eſteemed in this art of map painting, but if the paper be not good and ſtrong, no art can make the colours lie well, therefore in buping maps cheoſe thoſe that are printed on the ſtrongeſt paper.

Directions how to lay on Metzoeinto Prints and glaſs.

IN undertaking this, curiouſly lay the print flat ways in warm water, of the thineſt and fineſt paper, for that which is rough and thick will not do near ſo well, if at all; let them ſoak well, and your glaſs being very light and thin, go over it with Venice turpentine ſpread thin with a pliable knife, and daub it all over with your finger, that the turpentine may ſeem rough,

This done take the ſoaked print, and lay it on a clean cloth ſmooth, then preſs with another to take out the water, then lay it on the glaſs, the print next it, beginning at one end, ſtroaking outwards the part already fixed to the glaſs, that neither wind or water may be retained between or wrinkle it; then with a b t of ſponge, or your hand, wet the backſide, and lightly by degrees roll off the paper carefully, without making holes eſpecially with the lights, which are the tendereſt, and when

the

the print appears very plain on the backſide, let it dry about two hours, then varniſh it over with turpentine or maſtick varniſh till you can ſee through it, and a nights drying will prepare it to be worked on wit colours.

If you would have all the paper off, ſo that nothing but the print may remain, lay it as before with oil of maſtick, and a little turpentine, and a bruſh will fetch off the colour.

BOOK VIII.

The Art of Dying, Staining, &c.

To Dye Wood a curious Red.

THE wood that takes this colour muſt be very white, and to begin it put a handful of allom in a moderate kettle of water, and caſt your wood in it, and when well ſoaked, take it out, and put two handfuls of raſped braſil wood, and when that has boiled well, put the wood in again for a quarter of an hour boiling, and it will take the colour.

To Stain a curious Yellow.

In this caſe take the knotty aſh or bur, that is very white, knotty and curled, ſmooth and ruſh it very well, and when it is well warmed, waſh it over with a bruſh dipped in aquafortis, then hold it to the fire till it deſiſts to ſmoak. Bruſh it again when dry, then poliſh it, and varniſh it with ſeed lac, and it will be of a curious colour, not inferior to any outlandiſh yellow wood, and if you put filings or bits of metal, as copper, braſs, &c. each metal will produce a different tincture.

To Stain or Dye Wood Black.

Boil logwood in water or vinegar, and two or three times bruſh or ſtain the wood with it when very hot; then take nut galls and copperas, bruiſe them well, and boil them in water, and

with it walh or ſtain your wood ſo often, till it be a perfect black; or rather ſteep it in the hot liquor if you can put it in, and the dye will penetrate the better.

To dye or ſtain Wood for inlaying of Flowers, or other Things in Cabinets.

Get moiſt new horſe dung, and ſqueeze out the moiſture through a cloth, put it into ſeveral ſmall veſſels fit for your purpoſe, and diſſolve gum araback and rock allom, each the quantity of a walnut, and with theſe mix reds, greens, blues, or any other colour that is ſuitable to the work, ſtir them often, for three or four days; then take your wood, particularly pear tree for white, cut it into the thickneſs of half crowns, or ſo much as will ſuffice ny inlaid work, and in a ſquare or length, according to your deſire; boil up the liquor or colours very hot, and put in the wood till the colour has well taken; ſome indeed you may take out ſooner, that the colour being leſs ſtrong, may agree with your party-coloured flowers, ſhading and the like.

To dye or ſtain Ivory, Bone, or Horn, Red.

Soak ſtone lime about twelve hours in fair rain water, then pour off the water well from the ſettling through a linen cloth, and to each pint put half an ounce of raſped brazil wood, and having boiled your materials in allum water, boil it in this, and it will give a curious tincture.

To ſtain Horn, Bone, Wood or Ivory, Green.

Prepare your materials by firſt boiling in allum water, then grind the common thick verdigreaſe, or Spaniſh green, a moderate quantity, adding half as much ſal ammoniack, and put them into the ſharpeſt wine vinegar, as alſo the materials you intend to ſtain, and keep them there till they have taken a good tincture.

To ſtain or dye Horn, Box or Ivory, a curious Black.

To do this, put ſmall pieces of Brazil wood into aquafortis and ſo continue them till they appear green; then waſh well

your materials in them, and boil log-wood in water, into which put them whilſt they are warm, and in a little time the ivory, &c. will be of a curious black, ſo that being poliſhed, it will look like ebony or japan; and if you would have any part for flowers or the like, remain white, draw them before ſtaining with turpentine varniſh, and the black will not touch them, and clear up with oil and lamp black.

To ſtain Skins green.

Bruiſe a good quantity of the leaves of nightſhade very well, diſſolve in the juice well ſtrained out about two ounces of allum, then put in half an ounce of verdigreaſe, ſuffer them to ſtand over a gentle fire twenty-four hours, then warm, dip in a bruſh, and ſtrike over your ſkins; let it dry and repeat it till it has taken a pleaſant green.

An approved Way to colour white Leather.

Theſe ſkins muſt be hung in chalk or lime water, that the wool or hair may be entirely ſtripped off, and they become ſupple, ſtretch them ſmooth on tenters, bruſh them over with allum water very warm, and ſo tincture them with the colours you deſign, ſuitable to your purpoſe.

To put a curious Black on Leather.

Take two pound of the inward bark of an old elder, the like qantity of the ruſh or filings of iron, put theſe into two gallons of rain water, and cloſe them tight up in a veſſel, and when they have ſtood about ſix weeks, put in a pound of nut-galls well bruiſed, a quarter of a pound of copperas. let them ſimmer a conſiderable time over a fire, and after twenty-four hours ſtanding, and often ſtirring, pour out the liquid part, and go over your leather with it warm, and it produces a curious German black.

To colour Leather a bright Red.

Dip your leather firſt in allom water, and rub it well therein; then take ſtale urine, boil it till it is half con-

ſumed

ſ.med, ſcum it well, and put to it an ounce of the beſt lake, raſped brazil two ounces, and an ounce of allum; add to theſe half an ounce of ſal armoniac, ſtir them well over a moderate fire two hours, pour off the liquid part, and bruſh over your ſkins with it, till it takes a good tincture, remembering ever to let the ſkins in all colours dry well between each going over with your bruſh, and your expectation will be anſwered to a very conſiderable advantage.

A curious French Yellow for Skins.

Take wood aſhes and chalk, of each a like quantity, and when you have made a good ley with rain water, ſtrain out the fineſt part, and ſet it over the fire, then put in a ſufficient quantity of turmerick, well bruiſed or beaten to powder, and as much ſaffron as may give a lively tincture, let it ſtand over a moderate fire, but not boil, till it becomes pretty thick, and being warm, colour the ſkins with it.

For a deep Blue or Purple.

Strain out the juice of the elder berries, put to two quarts, an ounce of allum, half an ounce of ſmalt or indico, ſet theſe over a gentle fire, and when warm, bruſh your leather over with this compoſition.

For a Crimſon Velvet.

Diſſolve cake ſoap in fair water and bole armoniack, each three ounces, place it over a gentle fire till the liquor grows clammy; then put a little handful of grains of cochineal, two ounces of red lead, an ounce of lake, a quarter of an ounce of vermillion, and a little piece of indico, beat theſe over a gentle fire till they are thick as the glare of an egg; then go over the ſkin with a ſoft bruſh dipt in it, till the colour ariſes to your mind.

To imitate Turkey Blue.

Take two ounces of ſmalt, a quarter of a pint of red wine, half a pint of vinegar, an ounce of white ſtarch; incorporate

incorporate theſe over a fire till they come to a moderate thickneſs, then ſoak the ſkin in allum water; add to the compoſition a pint of water wherein gum arabac has been diſſolved, and ſtir it well; go over the ſkins three times, drying them 'twixt whiles, ſo when well dry'd, poliſh them over, to make them gloſſy.

For a light Green.

Take the juice of the herb called horſe-tail, add to it a little allum, verdigreaſe and copperas.

To cover or dreſs Skins with Gold or Silver.

Grind brown red with a muller on a marble ſtone, add to it a little water wherein chalk has been diſſolved, and lightly go over the ſkins till they look whitiſh, and before they are dry lay on the leaf gold or ſilver a little lapt one over another, that no ſpace be found wanting; when they ſtick well to the leather and are dry, poliſh them over with ſmooth ivory, or a horſe tooth, and it will give a very glorious luſtre. The ſilver you may go over with lacquer varniſh, and change it into a gold colour.

Or another way, take glare of eggs or gum water, bruſh the ſkins over with it, ſo lay on your leaf gold or ſilver, doing as before.

To make Skins ſhine with Silver or Gold.

Take gum-water, the glare of eggs, and the powder of antimony; grind and mix them well together, (the ſkins being dry) lay it on with a bruſh three or four times, letting them dry between every time; then burniſh them over, and they will have a curious gloſs like ſilver, which tinctured with lacquer varniſh, will produce a fading gold colour.

To die Briſtles a red Colour.

Take half an ounce of allum, a quarter of an ounce of vermillion, and an ounce of raſpt brazil wood; put theſe into a pint of vinegar; ſo boil them moderately thick, and

dip

dip in the briſtles when 'tis very hot; which continuing ſome, it will be a fine red. You may make larger quantities of the liquor with ingredients proportionable, and thus die feathers.

Feathers or Briſtles, Green.

Take verditer and verdigreaſe each an ounce, put them into a pint of water, ſoak the feathers or briſtles in hot water, and put them into this liquor boiling hot, and there remain until they have taken a good colour. According to tho complexion of your dye, you may make them this way any colour.

For blue, let your dye be indico and bice.

For black, galls and logwood, with a little copperas.

For purple, lake and indico.

For carnation, ſmalt and vermillion.

For yellow, yellow berries and ſaffron, diſſolving a little tartar in your water.

For orange, turmerick and red lead: and ſo of any other colours you fancy.

Of Dying Silks, Stuffs, Cloths, Thread, and other Things of diverce curious Colours.

Take a pound of Green weed, and as much allum, bruiſe them, then pour on them fair water, and half a pound of razp'd brazil; ſet them over a gentle fire, to mix them, then put put in the ſilk, ſuffering it to ſeeth therein, and ſo continue it, ſtrengthening your die, and dipping till you perceive the colour has taken well; after that rince it in ley of wood aſhes or oak bark, and ſo clear it with fair water, then dry and preſs it.

To dye Silk a deeper Carnation.

Take white gall and allum, the herb called foli well dried, the quantity of a pound, two ounces of Spaniſh red, four of indian lake; boil them in fair water over a gentle fire, when they come to the height of tincture, dip your ſilks in them

them, and let them have good dippings three or four times, and the colour will take very well.

To dye Silk Quoins red.

Let theſe be ſteeped well in allum-water, then give them a gentle heat, adding in the heating bran water, a pound and a half of Green-weed, ſo heat it up and put the ſilk into it, but let it not ſeeth, then rince it in ley of wood-aſhes, after that in water, then put in your log-wood raſp'd or in powder, and ſo heat it up a ſecond time; ſo in thrice dipping the buſineſs will be accompliſhed.

To dye a curious yellow.

Take woad, the ſtalks, ſeeds and leaves, and lay them to ſoak in wood-aſhes lays, three hours, then ſeeth it till it is ſufficiently ſodden, and put it into a mixture of hot water and urine, ſo beat it up, and ſtrain the liquid part through a ſieve or ſtrainer, adding verdigreaſe, and ſo boil it up with the ley already ſod, ſtirring and well mixing the liquor about three hours, and when it is very hot, dip three times.

To dye Silk a Roſe-red.

Take to every four yards and a half you intend to dye, a pound and a half of nutgalls, boil them in fair water unbruiſed two hours, ſhift the water, then put in the ſilk or linen, letting it ſoak four hours, then wring it dry, and heat it in fair water, wherein allum has been diſſolved, then put in half a pound of brazil powder, and a pound of green weed, and ſo by dipping in gentle heats, the colour will heighten.

A good black Water for Silk or Cloth.

Take an ounce of lamp-black, half an pound of nutgalls, bruiſe the latter, and put them into a bottle of water, with a handful of the filings or ruſt of iron, beat them up, adding a quarter of a pound of copperas, ſeeth it to a quarter

ter of a pound conſumption, then add half a pint of gum water, and it will not only be for preſent uſe, but keep long, and be a very good black.

To dye Purple.

In this caſe if you dye ſilk, you muſt take to each pound of it an ounce of allum, and a gallon of water, diſſolving the allum therein over a gentle fire, then put in the ſilk, and let it continue there about four hours, then take lake and indico, each a quarter of a pound, a quart of urine, then add a little handful of cochineal, heat them up into a dye, and dip your ſilks or fine ſtuffs into it as uſual.

To dye a very fair Blue.

Take any ſilk, ſtuff, or cloth white, and ſoak it in water, that done, wring out the water very well, and add two pounds of woad, a pound of indico, and three ounces of allum, give a gentle heat in fair water, and ſo dip till you perceive the colour to take well.

Carnation.

To make this a curious right colour, Take dried purper, ſoak it in man's urine for a night, then take what you have to die, and ſoak in allum water twice, ſeeth the purper in fair water, and then ſet another veſſel to receive the liquor and dip therein.

For a plecſant light Red.

Boil two gallons of wheat, and an ounce of allum in four gallons of water, ſtrain it through a fine ſieve, diſſolve more allum half a pound, and as much of white tartar; add three pound of Madder, to perfect the colour, and put in your ſtuff, cloth, &c. at a moderate heat.

Black, for Velvet, &c.

Take half a pound of copperas, a gallon of ſmith's water,

two

two pounds of galls, burnt ivory, oak bark, and ſhoemakers black, each an ounce, well ground, two gallons of fair water, mix them well, and ſet them in the ſun or other warm place a month, often ſtir it, and at a moderate warmth dip your velvet, or other things deſigned for deep blacks.

To make Red water for Silks or Woollen Violets, Green, Azure, or Yellow.

Take 2 gallons of fair water, four ounces of braſil, and, being half conſumed in heating, remove it from the fire; then put in an ounce of grains, a quarter of an ounce of gum arabac with a quarter of a pound of allum well bruiſed, and having ſtood all night, it may be uſed in the morning.

To dye Woollen, Yarn, or Wool.

Take 2 pounds of wool to every 4 pounds of yarn, &c. and 2 gallons of water: put in 2 handfuls of wood-aſhes, and when it ſeeths put in the yarn or wool, and let it continue half an hour or more; then wring it and put it in again, and let it ſeeth as long as before, and if it were a brown blue, it will be a dark green, of a white yellow colour.

To make Bran-water.

This is very neceſſary in dying, and therefore you ought to know how to prepare it. Do it with half a peck of wheat bran to 2 gallons of fair water, and half a pound of bruis'd allum, over a gentle fire; ſuffer it to ſtand about a week, often ſtirring it before you uſe it.

To make a grey Florrey.

Let the florrey be ſoaked 24 hours, then wring it thro' a cloth, and take aſhes of vine-ſprays, with them make a ley, and upon a table ſpread the florrey, about two hours, put the ley into three veſſels, and ſhift the florrey out of one into another, and before you put your vinegar in, ſo the florrey will be right, and your colour good.

To dye Linen with Crampenade.

To three ells of linen uſe a pound of the crampenade, and a gallon and a half of water, ſo a greater quantity proportionable; ſet it over a fire till it begins to ſeeth, put in at that time two ounces of galls, then your linen, and when you take it out (which muſt be often) wring it and put it into allum water: but if you would have the colour darker, 'tis requiſite to have a ley of unſlack'd lime or chalk-ſtones.

To dye Linen, Thread, or Cloth, a good Red.

Soak a pound of ſamfleur 24 hours in two gallons of water, ſuffering it to heat over a gentle fire, and two ounces of vermillion, half a pound of raſpt braſil, and an ounce of allum diſſolved in fair water, ſo dip and order as in other things.

To dye Braſil Red on Cotton.

For twelve pounds of yarn take two pounds of allum, and two pounds of aſhes; mix them together, and four ounces of Spaniſh whiting, mix them together and put in your goods, twenty four hours; take it out and waſh. Take one pound of Braſil, and one pound of Peach wood, beat them together in 12 gallons of water, put in one gallon of urine, and four ounces of pearl aſhes, then dye your goods half hot.

N. B. Drying in the houſe improves the colour.

To dye London Red on Cotton.

Allum your cotton ſtrong 12 hours, waſh out; take ſtrong gall-liquor, put in your goods one hour, waſh out of the gall-liquor, take a ſtrong Braſil liquor, ſteep your goods 5 or 10 minutes; if a London Red, put your ſpirits in the ſame liquor, let it be one hour or twelve; the longer it lies the better, and your colour's finiſhed.

Black Colour upon Silk.

To 6 pounds of ſilk take 1 pound of galls; boil your galls, ſteep your goods all night, the next day boil three pounds of

logwood, two ounces of verdigreaſe, and four ounces of copperas, boil the logwood and one pound of ſhumach by themſelves ; put in your goods and boil them well for half an hour, then take them out, and put in your copperas and verdigreaſe, and two ounces of antimony; boil it well one hour, then take it out and waſh it well and finiſh it. If for damping, and to make it weigh well ; take one pound of black ſoap, and one pound of fuller's earth, diſſolve them in water, put it into that, beat it on a ſtone and it is finiſhed.

To Dye Cherry Red.

To one pound of ſilk, take two ounces of cuddbear, boil your goods in it ten minutes, then take it out, and put in two ounces of cream of tartar; if for deep claret, put in 6 ounces of common ſalt, then from theſe to the ſpirits. *Cold Fat.*

To dye Blue on Cotton or Silk,

One pound of vitriol, two ounces of Spaniſh indigo, mix your verdigreaſe and indigo together, let your pot be dry before the fire when ſprung, then put in one ounce of pearl aſhes, when fit for uſe, rub a little on a glaſs window, if it turns to a purple, you may dye green or blue on ſilk or woollen, if it remains blue on the glaſs, throw it out it is good for nothing.

To dye Green Silk.

Boil one pound of fuſtic to twelve pounds of ſilk, four ounces of turmeric, one ounce of common allum, boil them together, when boiled, mix a little of your chymical, put on oil and indigo ; then turn in your goods, boil them well and you will have a good green on woollen or ſilk, for darker colour, more indigo liquor, and more fuſtic as you pleaſe.

To dye Scarlet on Silk.

Strong Allum cold ſix ounces, take out and waſh well, to 12 pounds of ſilks take one pound of arnetto, one pound of pearl aſhes, boil it well together fifteen minutes, take out and waſh well, one pound of allum, diſſolve it in as much water as will

your

your goods, which is three gallons; ſteep your goods in the ſame liquor for one hour, take out and waſh; boil one pound of braſil, when boiled, put in one ounce of pearl-aſhes, when blood warm, dye your goods and waſh well, and finiſhed.

To dye Crimſon on Silk.

Allum ſtrong for 12 hours, waſh out, boil 2 pounds of braſil, when boiled, put in two quarts of urine and one ounce of pearl aſhes, when blood warm, dye your goods.

To dye French Moron on Silk.

To 12 pounds of ſilk take one pound and half of cudbear, boil it well, when boiled, put in the ſilk; boil ten minutes, take out if garnet colour, boil in the ſame liquor two pounds of common ſalt put into the ſame liquor, put in your goods and boil ten minutes; to finiſh the garnet colour put in four ounces of cream of tartar.

To dye Claret on Silk.

Boil ſtrong cudbear, when boiled ten minutes, take out, put in four ounces of cream of tartar, finiſhed.

Pink on Silk.

Allum your ſilk ſtrong, the next morning waſh out, boil four pounds of brazil to twelve pounds of ſilk, when boiled, put in one gallon of urine, when blood warm dye your ſilk, if not blue enough, put in a little aſhes,

Mader Red upon Cotton.

To 12 pounds of cotton, ſix gallons of water; take 4 pounds of allum, 4 pounds of the beſt pearl aſhes, mix the two together, put in your cotton, let your cotton lye 24 hours, then take out and waſh it in cold water, take 4 pounds of madder & eighteen gallons of water, put it into a copper, then mix your madder, turn or put in your cotton upon ſticks, then put a fire to your furnace, and bring it up gradually to boil for one hour, then take out and waſh, either in ſtove or in the open air.

To

To dye Hat Lining Blue.

Take two ounces of Spaniſh indigo, pound it in a morter, take one pound of oil of vitriol, mix your indigo in the vitriol, when mixt one hour, put in one ounce of pearl aſhes, take a table ſpoonful of this mixture to two gallons of water, this will dye 6 yards, and the ſame receipt will ſerve for cotton.

To Dye Turkey Red upon Leather.

Take a goat's ſkin, let it be properly ſcoured with pig or ſheep's dung, pigs is preferable, then take a ſtrong allum water ſpunge over your ſkin, when dry, boil a ſtrong gall liquor, as it cannot be too ſtrong when dryed; boil a ſtrong brazil liquor, the ſtronger the better; take a ſpunge, dip it into your liquor, and ſpunge over your ſkin; repeat this till it comes to a full red: to finiſh your ſkin, take the white of eggs, a little gum dragon, mix the two together in half a gill of water, ſpunge over your ſkin, when dry, poliſh it with a bottle or a piece of glaſs made for the purpoſe.

For Yellow.

Take a pint of the ſtrongeſt wiſkey, four ounces of turmerick; mix the two together, when ſettled, ſpunge your ſkin over with gum the ſame as with the red.

For Black Turkey.

Take your ſkin upon a board needs no cleaning, ſpunge it over with gall and ſhumaok ſtrong, then take a ſtrong logwood liquor, ſpunge it over three or four times, then take a little copperas, mix it in the logwood liquor, ſpunge over your ſkin, finiſh the ſame as the red.

A Turkey Blue.

Take two pound of Spaniſh indigo, grind it with iron balls in a pot, take a hogſhead of water, put in four pounds of copperas and the ſame quantity of lime; mix the two in the water

water, when your indigo is well ground, mix it in the veſſel, and ſtir it well up; the third day you may dye your cotton, this quantity will dye one hundred weight.

To kill Aquafortis for the uſe of Silk, Cotton, Linen or Woollen.

Take one pound of Aquafortis which is as pint Engliſh, and half a gill of water, put your water into a bowl, put in one ounce of common ſalt, mix it with water, then put in your aquafortis in a little green——— 3 ounces will kill the pound of aquafortis, add a little tin, a little time for one hour, when boil'd, put in half a gill of water, and cover it up with a cloth.

To dye Orange on Silk or Cotton.

Take one pound of ſilk, one ounce of arnatto, and two ounces of the beſt pearl aſhes, boil them well together, turn in your goods, when boiled ten minutes take out and waſh well, they are finiſhed.

To dye Buff Colour.

Take one pound of fuſtick, and eight ounces of Madder, boil them together, when boiled, run your goods through them, then take a little kill'd aquafortis and water, and waſh well, they are finiſhed.

Nankeen Colour.

Take one pound of aſhes, diſſolve them in cold water, as much as will wet 24 yards of goods; then take one pound of copperas in the ſame quantity of water, waſh your goods from one tub to another till they come to a buff green, then take out and put them overhead in cold water till it comes to its colour, which may be an hour or two, the nankeen colour is the ſame proceſs by adding a little ſugar of lead to the aſhes.

Blue

Blue Fatt Cold.

Take two pounds of indigo, four pounds of lime, four pounds of copperas into a caſk, grind your indigo, put your copperas into a cask of water firſt, then your lime and indigo, ſtir the whole together for one hour, the third day dye your goods.

N. B. The quantity is about 63 gallons.

Black Colour on Cotton.

Take two pounds of verdigreaſe, two ounces of copperas, ten pounds of logwood, three ounces of alkaline ſalts, two ounces of oil of vitriol; mix them all together, and put in your goods, boil for four hours take it out to cool, when cool, return to the former and boil it one hour, then take it out and waſh it well; take one pound of Gallepy oil, and one pound of Spaniſh whiting; mix the two together, and put in your goods for twelve hours, then take out and waſh them well and they are finiſhed. This will ſerve for 21 pounds of cotton yarn.

To dye Turkey Red upon Cotton.

To 36 pounds of cotton, take half a peck of ſheep's dung and half a peck of pig's dung; mix it in a tub and trample it well by a man or two boys, let it lay for twelve hours, then take and waſh it well; take two pounds of ground galls, mix them well together in cold water, and let them lay 12 hours, then take out and dry them; take ſix pounds of Roach allum, diſſolve it in cold water, then ſteep your cotton 24 hours and take it out; take four gallons of water, and put in your goods, in twelve hours take them out and waſh them, then take and run them through your cold allum water for one hour; put two pounds of gallepy oil in a tub that holds about eighteen gallons, and three pounds of whiting; mix the whole together and put in your cotton for twenty four hours, then dry your goods, and take four pounds of allum,

and

and four pounds of the beſt pearl aſhes, mix them together in cold water and put your goods in for 24 hours, dry out the next day and waſh them in warm water; to dry your goods take eight pounds of the beſt madder, put it in a copper of cold water, then put in your goods, light a fire under the furnace at the ſame time, and boil your goods for two hours, then take out and waſh and they are finiſhed.

BOOK IX.

MISCELLANEOUS ARTICLES.

LIBRARY

To make horn like tortoiſe-ſhell.

TAKE a dram of lithrage of gold, half an ounce of quicklime, mingle theſe well together, make them into a paſte with white wine, and of this make layings on horn that's thin on the ſides: Being clear and dry, take it off after five or ſix hours; add tripoli and a little ſallad oil to it, and when that has lain as long, rub it off with a linen cloth, ſo poliſh it, and the places where this has lain will be diſcoloured like tortoiſe ſhell.

To make a walnut grain on white wood.

Thinly ſpread on it 7 or 8 lays of ſtrong glue one after another, each being firſt dried, and it will become ſhining; then wet a bruſh or pencil in common water, and form your knots or other ſtrokes in the glue whilſt warm, ſo ſtrike hard on it with a wooden bruſh, and lay another laying of glue and poliſh it.

To cement broken glaſs, a curious way.

Take glair of eggs mixed with quick-lime, burnt flint (i. e. flint calcined to powder) and egg-ſhells; with theſe and gum ſandarach

ſandarach make a glue or cement. and anoint the broken edges of the glaſs with it warm, as thin as may be; place the other pieces right and even on it, and ſet it to cool, ſo let it lie in water an hour; take off the ſuperfluous glue, and the glaſs will be as firm as ever, and the cracks will not be diſcern d, but with great difficulty, by a very clear light.

To *make ſaſhes for windows as clear as glaſs.*

Take vellum, thin parchment, or the fineſt white paper, as ſmooth on both ſides as may be, and being wet and ſtretched, put it on the ſaſhes as ſtreight as you can without tearing, then let it dry gently in the ſhade; take two parts of nut oil, or linſeed oil, two parts of fair water, and a little white glaſs beaten to fine powder; boil them in a glaſs body in ſand ſet on a tile pretty near the fire, till the water be conſumed then mix and ſtrain it, and lay it on very thin with a fine bruſh, but ſo that it may ſo ſoak through the paper; ſo they will be exceeding tranſparent.

To *ſoften or diſſolve horn or tortoiſe.*

Make a ley of the aſhes of burnt bean pods, ſtrong vinegar, quick lime and tartar; put in the horn in thin pieces, and in four or five hours the horn will turn to a fine jelly, or be ſo ſoft that you may work it into what form you pleaſe with little labour. The like may be done with tortoiſe-ſhell, but it will not jelly; however it will be ſo ſoft that it may in a manner be moulded like wax, and very pliable to make ſmall boxes, or watch caſes, and other things.

To *ſoften ivory a curious way.*

Boil a good handful of ſage leaves in thrice diſtill'd vinegar, put in a little quick-lime, and boil the ivory in it, and it will grow ſoft and tough, and not break but with great difficulty, when it is worked in the fineſt comb-teeth, or other fine works.

To

To take ſpots out of ivory and whiten it a new way.

To do this, lay the ivory in quick-lime, and pour firſt a ſprinkling of vinegar, and then water, but not too much, that the heat may not be too great to make it ſcale and grow brittle, and when it has lain 24 hours, take it out, waſh it with white wine, rub and poliſh it, and it will be marvellous white.

To make light for lamps that will not ſmoke.

To do this, diſtil a quart of good olive oil, and make the wick of talk, or ſtone allum, like other wicks; which is to be done by ſteeping them well in water, and they will ſpin out; and to make the oil riſe, make a great many little holes with a ſmall awl or needle in the wick, and it will give a bright and curious ſteady light, without ſmoaking.

To hinder oil that is to burn from ſmoaking.

To bring this about, diſtil the juice of onions, and put a little of it at the bottom of the lamp, or whatever you burn it in, and the oil ſwimming on the top, the ſtrength of the diſtilled liquor underneath penetrating, it will hinder it from ſmoaking, and make it burn the brighter.

To take ſpots or ſtains out of ſilks, ſtuffs, woollen, linen, alſo pitch, tar, roſin, and wax; and to recover faded ſilks or linen.

To take ſpots or ſtrains out of ſilks.

Take an ounce of flaxſeed, bruiſe it well in two or three ſpoonfuls of the juice of lemon? and a quarter of an ounce of white lead, and as much burnt bone, mix them over a gentle fire to a thickneſs, lay them on the ſtrainer.

To take ſpots out of linen.

Take two ſpoonfuls of the juice of an onion, and as much lime-juice, wet it two or three times, as often drying it by a fire; waſh it immediately in a good laver, and it is done.

A good ley to take out ſpots or ſtains.

Put half a pound of ſoap boiler's aſhes into two pints of water; let them remain three days, with often ſtirring; then pour off the clear ley and mix it with fuller's earth, then lay it thick on the place, drying it in the ſun, or by a fire, and in two or three times doing, it will anſwer your expectation.

To take ſpots or ſtains out of coloured ſilks, ſtuffs, woollen or linen.

Take pumice-ſtone and grind it to powder, put to it ſharp vinegar and fuller's earth; let it lie on and dry, then waſh it with milk and flower of almonds.

A method to take out pitch, tar, or roſin.

Dab on this oil of turpentine, let that dry and put on more, and the third time when it is dried you may rub out the pitch, &c. for it will crumble like dirt.

To take out oil or greaſe

Mix burnt bone and fuller's earth with a little white wine, and lay it on the ſpot, then dry it in the ſun, or by the fire, and it will ſoak out all the greaſe in once or twice doing.

An excellent water for the eyes.

Take a new laid egg and roaſt it hard, then cut the ſhell in the midſt, and take out the yolk, and put ſome white copperas where the yoke was; then bind the egg together again, and then let it lie till it begins to be a water; then take the white forth from both ſides the egg, and put the ſame into a glaſs of fair running water, and ſo let it ſtand a while, then ſtrain it through a fair linen cloth, and keep it cloſe ſtopped in a glaſs, and therewith waſh your eyes morning and evening.

To

To *make mint-water.*

Take two parts of mint, and one part of wormwood, and two parts of carduus; put theſe into as much new milk as will ſoak them: Let them infuſe five or ſix hours, then diſtil it as you do roſe water; but you muſt often take off the head and ſtir the water well with a ſtick. Drink of this water a wine glaſs full at a time, ſweetened with white ſugar to your taſte.

To *cure corns.*

Take beans and chew them in your mouth, and then tye them faſt to your corns, and it will cure them. Do this at night.

An excellent dyet-drink, for the ſpring, to purge and cleanſe the blood.

Take of ſcurvy graſs half a peck, brook-lime, water-creſſes, agrimony, maiden-hair, liver-wort, burrage, bugloſs, betony, ſage, ſweet-marjoram, ſea wormwood, tops of green hops, fumitory, of each a good handful; of ivory, hartſhorn, and yellow ſaunders of each one ounce; red dock roots, two ounces, purſlain, fennel, aſparagus roots of each an ounce, of raiſins half a pound; boil theſe very well in a gallon of beer, then ſtamp and ſtrain them, and put into it three gallons of new beer to work together.

A preſent remedy for the tooth-ach.

If your tooth be hollow and paineth you much, take of the herb called ſpurge, and ſqueeze it, and mingle wheat flour with the milk that iſſueth from it, with this make a paſte, and fill the cavity of your tooth therewith, and leaving it there a while, you muſt change it every two hours, and the tooth will drop out of itſelf.

To *waſh ſilk ſtockings,*

Make a ſtrong lather with ſoap, and pretty hot, then lay your ſtockings on a table, and take a piece of ſuch cloth as the

the ſeamen uſe for their ſails, double it up and rub them ſoundly with it, turn them firſt on one ſide and then on the other, till they have paſſed through three lathers; then rinſe them well, and hang them out to dry with the wrong ſide outwards, and when they are near dry, pluck them out with your hands, and ſmooth them with an iron on the wrong ſide.

To make clean gold and ſilver lace.

Take the lace from your garment, and lay it upon a table, and with a bruſh rub it over very well with burnt allum beaten fine, till you find it to become of the right colour; then ſhake it very well, and wipe it very well with a clean linen cloth oftentimes over.

To get the ſtains of fruit out of any linen cloth.

Take them before they are waſhed, and with a little butter rub every ſpot well, then let the cloth lie in ſcalded hot milk a while; and when it is a little cooled, rub the ſpotted places in the milk till you ſee they are quite out, and then waſh it in water and ſoap.

How to make clean plate.

Waſh your plate firſt in ſoap-ſuds, and dry it; then if there be any ſpots, rub them out with ſalt and vinegar, then anoint your plate all over with vinegar and chalk, then lay it in the ſun or before the fire to dry, then rub it off with warm linen cloths very well, and it will look like new.

How to keep the hair clean and preſerve it.

Take two handfuls of roſemary, and boil it ſoftly in a quart of ſpring water, till it comes to a pint, and let it be covered all the while, then ſtrain it out and keep it; every morning when you comb your head, dip a ſponge in the water and rub up your hair, and it will keep it clean and preſerve it, for it is very good for the brain, and will dry up rheum.

F I N I S.